

THE FUTURE HISTORY OF THE WORLD

Tom Kando
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PREFACE

Between the 21st century and the year 25,000, humans changed more than they did during the previous 50,000 years, i.e. since the emergence of *homo sapiens*. Social and scientific evolution reversed Lenin's dictum, "one step forward, two steps back." Although devastating wars, oppression, exploitation and injustice remained part of human history, the human spirit and the human soul not only managed to survive, but they triumphed.

In the 21st century, the situation did not look promising. The world was in trouble. The United States, a declining but still powerful nation, was in trouble. The Introduction describes this situation. Then, history takes off.

INTRODUCTION

1. The US in Trouble: For the world, the three central themes of the first decade of the 21st century were (1) accelerated globalization (2) the confrontation between multinational capitalism and the sometimes violent reaction against it - epitomized by the 9/11 attack, and (3) the collapse of the Western World's economy.

The Great Recession of 2008-2017 revealed, more than anything else, the accumulated weaknesses of the United States. The country's long-term decline was the result of decades of reckless spending and imperial overreach, manifesting themselves in a staggering *dual deficit*. By 2012, America's *current account deficit* had produced a national debt approaching *one hundred trillion dollars*. In addition, the federal government had amassed an \$15 trillion debt. Also, the country was nearly entirely deindustrialized.

Decades of Republican mismanagement played a major role in the destruction of an economy which once dominated the world. President Obama inherited the mess.

Yet, valiantly as he tried to save the country, he was not permitted to succeed due to a perverse new consensus among a misguided majority of Americans - the view that the government and taxation were the problem, not the solution. A majority of Americans turned against Keynes with a vengeance, and returned to the altar of Adam Smith. One of the first casualties was the US Dollar. Once the most valuable currency in the world, the greenback became one of the world's weakest.

America ceased to be the world's overwhelming economic power. By 2016, US GDP was lower than that of the European Community, and only twice the size of China's. The dollar ceased to be the world's international currency. It was devalued to the point where it was worth only half a Euro, which, along with the Chinese renminbi became the preferred currency for international transactions, including oil.

Imperial Overstretch: In 1987, Yale historian Paul Kennedy published *The Rise and Fall of Great Powers*. In this book and many subsequent papers, the author popularized the concept of *imperial overstretch* and argued that America was now an empire in decline. Kennedy felt that 17th century Spain offered the most compelling analogy for what was happening to America at this time.

And indeed, by 2008, America was paying a high price for policing the world, for protecting its allies, for keeping the international trade routes open and for safeguarding the stability of the world economy. All these burdens were causing the US government and the US economy to sink into ever deeper debt. The country's domestic infrastructure was in shambles, the society was suffering from crying needs in education and public health, its cities were collapsing without being rebuilt (New Orleans, Detroit), the country was bogged down in several wars which it could not win. And then, the US economy collapsed altogether.

Kennedy's analogy with 17th century Spain seemed apt. In the beginning of that century, Spain had been the wealthiest and most powerful country in the world. Its empire had been global. By the end of the 17th century, it had lost its pre-eminence to Britain, France and even the Netherlands, and for the next two centuries it declined to the point where, in the 20th century, Spain was the poorest and most backward country of Europe. Spain tried to do too much,

fought too many wars. It believed in its own omnipotence and it fought desperately to preserve the status quo. It went broke. Now, America was traveling down the same road.

Domestic Policies: The 2nd decade of the century continued the trends which had been under way before 2010. By 2015, America was importing more than two thirds of all its oil. Due to their obstinacy, the Big Three automobile manufacturers were unable to weather the 2008 economic collapse. By the end of the Obama administration, in 2016, American auto makers held on to 23 % of the US market, producing many cars which were undistinguishable from those made by Toyota and Honda, plus a few large gas guzzlers, which were bought by a shrinking base of American traditionalists.

Mass transit was a high priority for the Obama administration. However, the country had become poor. Tax receipts were declining, just as the government's responsibilities and liabilities were skyrocketing. The cost of Social Security, Medicare, unemployment compensation and debt financing was going through the roof. Yet, there was a general consensus that raising taxes would aggravate the depression. Therefore, the government was forced into staggering deficits. During the 2nd decade of the century, *annual* shortfalls were **approaching two trillion dollars**. The only thing left to do was to print vast amounts of money, money which was fast losing its value.

There were valiant attempts at cost cutting, for example, in the military budget. The administration managed to keep that budget flat, keeping it at roughly three quarter trillion dollars year after year until 2016. However, there was little money left for anything else. The vaunted **Federal Mass Transit** program launched by President Obama's **Public Works Administration** in 2009 allocated a mere \$ 50 billion to the construction of light rail, subways, bus systems, a high speed rail system in California and other infrastructure. This was a far cry from the **Federal Highway Act** half a century earlier, when Congress and the Eisenhower administration appropriated the equivalent of \$200 billion for the construction of 41,000 miles of national superhighways. Now, the aims were much more modest:

Construction on new subway systems was begun in five cities - Dallas, Denver, Houston, Minneapolis and Seattle. Also, the Los Angeles system was expanded, as was BART in the San Francisco Bay Area. In addition, several dozen cities built new, or expanded existing, light rail systems, and an even larger number of places expanded their bus transportation grid. What little money was left went to replacing, repairing and retrofitting bridges, highways and the antiquated railways used by Amtrak.

The overall economic battle was an uphill one. Even at end of Obama's 2nd term in 2016, the American economy remained stagnant. GDP remained flat for most of the 2nd decade of the century. Recovery remained as elusive as in the 1930s.

At least there was no further talk of privatizing Social Security. To remedy the looming shortfall in that program, maximum benefit retirement age was raised twice - to 66.5 years in 2013 and to 67.5 years in 2017.

The Southern Border: Illegal border crossings stagnated, because of the severe decline of the American economy. However, during the beginning of the 2nd decade, the flow of illegals

resumed its rapid growth, as conditions South of the border had deteriorated a great deal more than in the US. The Mexican economy was being battered by the worldwide depression, by the decline in remittances from the United States, and by the ever more devastating drug wars. By 2016, the number of *illegal* immigrants in the United States rose to 22 million.

There was a sharp increase in border deaths. Many more illegals died trying to cross, sometimes walking through the desert, sometimes suffocating in the “coyotes’ vans.

There was also a rise in violence. The Mexican drug wars ebbed over into American cities such as Laredo, El Paso, Yuma and San Diego. Some of the violence centered around illegal immigration.

There was an increase in vigilantism, especially in Texas and Arizona. “Minutemen” took it upon themselves to patrol the border, to “assist” the US Border Patrol. Between 2010 and 2017, there were numerous instances of illegals found shot dead in remote border areas. Recriminations flew in all directions: The Border Patrol and the vigilantes blamed each other for the murders, while the Mexican government blamed Americans. There were lawsuits, the ACLU became involved, but the outcome was inconclusive.

And then, the violence became international: in 2016, the Mexican and US military clashed, resulting in numerous deaths.

Foreign Policy: America’s relationship with the Hispanic World was affected by Fidel Castro’s death in 2013. Fidel’s brother Raoul formally took over the reigns of power which he had already held *de facto* for a few years. At first, this did not change Cuba’s relationship with the United States very much.

However, that relationship improved when President Obama finally suspended America’s half-century old embargo in 2014, and Hillary Clinton’s State Department eased travel restrictions to the island nation. Thereafter, there arose a veritable shuttle service between the South Florida Cuban community and Havana. Under a new family re-unification program, thousands of additional Cubans - relatives of earlier émigrés - moved to the United States. At the same time, back and forth travel to Cuba became routine. As the relationship became normalized, Cubans on both sides of the Strait of Florida began collaborative business ventures, and some Cuban émigrés even began to participate in Cuban community life, which led to participation in Cuban politics.

The situation on the Mexican border was more volatile, and it in fact exploded in 2016, when US border patrols and Mexican *federales* became involved in a shoot-out which cost the lives of seven Mexicans. This led to an international crisis that required the utmost diplomatic efforts of President Obama and his successor, President Hillary Clinton. The incident was triggered by the drug wars which had been raging in Mexico’s border areas for years. President Felipe Calderon put up a valiant fight trying to eradicate the cartels. This was an almost insurmountable task, as most law enforcement was corrupt, and even the federal police collaborated with the drug lords.

When Calderon’s term ended in 2012, presidential power returned to the PRI - the Institutional Revolutionary Party. Calderon’s successor did not continue to prosecute the drug war, preferring, instead, to accommodate the drug cartels. This exacerbated the relationship between the US and Mexican border forces.

When hostilities finally led to the 2016 shoot-out, it was not clear who started it, and in which manner drugs were involved. The US authorities insisted that it all began when they attempted to confiscate a large shipment of cocaine which a group of travelers were attempting to smuggle into the country. This caused Mexican federal policemen to move forward, in an attempt to retrieve the cocaine and haul it back across the border. That is when guns were pulled on both sides and shots were exchanged. The dead included six federales and eleven Mexican civilians.

There followed a severe diplomatic crisis. The Mexican government filed vigorous protests both with the US government and at the United Nations. In time, the whole thing died down, but only after the US government paid fifty million dollars in indemnity to Mexico.

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During his second term, President Obama pulled a majority of the remaining US troops out of Iraq. At the same time, the Green Zone was further fortified and over a *billion* dollars was spent to complete the U.S. embassy in Baghdad, the largest and most expensive embassy in the world. Also, the military were building three major bases in Iraq's remote areas. Clearly America was planning to stay in Iraq for the long haul, hunkering down in a number of impregnable fortresses. Thus, Obama was much more *gradual* in his withdrawal policies than many had hoped.

Furthermore, there seemed to be no end to the Afghan campaign. In fact, during Obama's second term, the US had six more brigades in that country than before 2012, for a total of 82,000 combat troops.

Because of the reduction of American forces in Iraq, the total number of US soldiers fighting the dual Middle Eastern war now 105,000. Meanwhile, the military was able to recruit an additional 115,000 troops. Thus, it was no longer stretched as thinly as it had been during the Iraq War, when it had depended heavily on reserves and national guards. The army was able to add three active divisions for a total of 13, and the marines went up from 3 to 5 divisions.

The Afghan "surge" did not have the desired effect. In 2015, Afghanistan was more out of control than ever. By then, The US was fighting practically alone, assisted only by a handful of Canadians and Brits. The Europeans had all left. The Taliban controlled most of the countryside, while NATO (translate: the US) was limited to Kabul.

Things were also moving in the wrong direction across the border in Pakistan. There, the central government's hold of the provinces was increasingly tenuous. Most of Baluchistan was under the control of the Taliban. Other border areas were in the hands of Al Qaeda, the Pashtun and other tribes. The government in Islamabad was teetering.

By 2016, President Obama concluded that the US had to withdraw from Afghanistan. However, the administration feared that a precipitous withdrawal at this time might accelerate the collapse of the Pakistan government and have possibly catastrophic consequences. President Obama, Vice President Biden and Secretary of State Hilary Clinton worked feverishly on plans for India to play a major role in the region, in case things collapsed altogether in Pakistan, and in Afghanistan. The goal was to leave only a token US presence in Iraq and to abandon

Afghanistan altogether. However, President Obama had still not been able to achieve the disengagement at the end of his second term, in 2016. The task was left to his successor, President Hilary Clinton.

All in all, the Obama Presidency was spiritually uplifting. Overseas, the country's image never again sank to the depths it had reached during the Bush years. Domestically, despite continued economic hardship and vicious obstruction from the Republicans, 2009 ushered in a quarter century which became known as *The New Progressive Era*.

The World: No continent escaped from The Great Recession of 2008-2017.

China was best able to weather the storm, as were, to some degree, other rapidly expanding Asian economies, including India.

Part of the Western response to the depression was to *accelerate* its outsourcing, so as to save money. This increased unemployment in Europe, in North American and in Japan, but not in China and India. And even as Americans cut down drastically on their consumption, their *exports* declined even more sharply than their imports, thus continuing the accumulation of dollars by China and others. In turn, the Chinese government invested some of those trillions of accumulated funds in domestic infrastructure and in other domestic needs. While the Western world was now experiencing negative growth, China's growth rate declined from 12% to a "mere" 6%.

From 2011 onward, the Chinese government grew increasingly concerned about American economic policies. It had weathered the sharp decline in US consumption successfully. However, Congress and the Obama administration were - however gradually - developing protectionist policies. The tax system was tweaked so as to encourage domestic production and to discourage outsourcing.

Rules regulating the contents and the composition of foreign imports were strengthened. There was even talk of introducing tariffs and quotas on imports, disguised under the label of "consumer protection." By the end of the Obama administration, the relationship between China and the US deteriorated, although not dramatically.

Latin America: South of the US border, things were dire. There were two trends in Latin America: (1) increasing chaos and (2) a leftward drift. Venezuela, Bolivia, Cuba and Nicaragua were now solidly socialist. Brazil retained the strongest economy, but its rates of crime and other social pathologies were so staggering as to threaten the very fabric of society. The same could be said about Columbia and Mexico. There, drug wars were raging, corruption reached the highest levels of government and law enforcement, and conflict was approaching the level of Civil War.

Europe: The economic recession hit the old world very hard. Just before the crash in 2008, the European Community's 27 member states were considering admitting three more applicants, namely Croatia, Macedonia and Turkey. However, Turkey's candidacy was controversial, because its admission would make a Muslim state the largest single member.

Furthermore, admitting relatively poor newcomers was a burden on the affluent Northern states during the best of times. Now, with the economy in the tank, Germany, France, the Benelux and Scandinavia were even more reluctant to share their wealth with Europe's poor Mediterranean underbelly. A compromise was reached in 2014: The two small states of Croatia and Macedonia were admitted, but Turkey's admission was deferred.

During the decade of the World Depression, the collective GDP of the 27 (29 after 2014) E.C. members declined by 3% each year. In rich Western Europe, this was bearable. There, the government provided generous safety nets for the unemployed, the sick, the elderly, the handicapped, the homeless.

In the East, however, the crisis caused enormous pain. Former Communist countries such as Hungary, Rumania and Bulgaria now got a taste of Capitalism in turmoil. Unemployment and homelessness became epidemic.

Russia's situation was slightly different: That country continued to enjoy a hefty income from its oil and gas revenues. It was also in a position to blackmail Western Europe, which it did repeatedly. Every once in a while, Russia threatened to cut off the flow of oil and gas to the West, and on a couple of occasions it in fact did reduce that flow, choosing to do so in the winter, so as to inflict maximum pain. Russia used its oil card to back up its foreign policy. It did this for example so as to compel the E.C. to accept the maintenance of Kosovo's status as a Serbian province, and to deter the Europeans from supporting Georgia.

Internally, the Russian economy was that of a Third World country run by a corrupt plutocracy. One *half* of the country's GDP was located in Moscow. In the provinces, living conditions were appalling.

And underlying everything else was the country's slow demographic disappearance. During the 20th century, the Soviet Union's population was one third larger than that of the US. By the 2nd decade of the 21st century, America's population was two and a half times larger than Russia's. Russians were not having any babies, many of them continued to emigrate, and life expectancy was down to 61, compared to 82 in Japan, 80 in Western Europe and 79 in the US. Russia was a dying country.

Africa: As always, the dark continent was the world's greatest disaster area. There, people were not merely cutting back on expenses and losing some of their investments. In Africa, people were dying of starvation. In several countries, for example Zimbabwe, the population began to decline.

The global economic depression was accompanied by accelerating global warming. The deforestation of the world continued unabated. Vast pieces of the Antarctic ice shelf melted and fell off into the ocean. Droughts afflicted many areas, including the Western United States. But no continent suffered more from the consequences of global warming than Africa. For example, during the second decade of the century, the Sahara expanded southwards by one hundred kilometers per year.

Furthermore, No continent experienced as much conflict that went largely ignored by the rest of the world, as Africa. There were at least four chronic wars which raged continuously during the entire decade. (1) The Sudanese genocide spilled over into Chad and the Central African Republic. (2) In the Congo-Ruanda-Burundi border area, Hutus and Tutsis continued to

vie for supremacy. (3) The civil war in Somalia was internationalized, as Ethiopia, Iran and others continued their attempts to intervene. (4) Zimbabwe, which had been practically destroyed by President Mugabe's decades of dictatorial mismanagement, collapsed into chaos and violence which threatened its neighbors, including South Africa.

The first two of these conflicts were of little consequence to the outside world. Therefore, they were relegated to the United Nations. From 2011 to 2015, efforts were made by the world body to put together an international peace keeping force (made up of Africans) to contain the Sudanese conflict and to pacify the region. When this failed, the UN troops were replaced by a Pan-African force largely made up of Nigerians, South Africans and Egyptians. These troops turned out to be undisciplined and predatory, making things even worse in the areas which they were suppose to help.

Somalia was of somewhat greater concern to the outside world, since it was one more arena where militant Islam was on the march. President Obama had no intention of getting sucked into another debilitating military confrontation under the pretext of waging a war on terrorism. However, he could not remain entirely aloof from the conflict in Somalia.

Furthermore, Somalian pirates were a growing threat to international commerce. In 2015, they captured a Japanese tanker and, for the first time, executed the entire crew of 125. Then too, the Islamic combatants were receiving military assistance from Iran and elsewhere. Thus, the Somalian conflict became somewhat internationalized. In 2015, the US and Kenya signed an agreement to start sending military and economic aid to Somalia, and to assist Ethiopia in its efforts to pacify the country.

Zimbabwe was also causing concern among its neighbors. President Mugabe died in 2012. However, his death did not signal recovery for that hapless country, but deepening chaos. The army turned into a lawless band of marauders that terrorized the population more than ever, and also became a threat to adjacent countries. After three years of increasing devastation caused by these armed bandits, South Africa's President Kgalema Motlanthe finally decided in early 2015 to "rescue" Zimbabwe. He sent in a highly disciplined and effective force of 45,000 men who managed to pacify the country within a year. However, the action amounted to nothing less than the invasion and occupation of a foreign country. By the end of 2016, after nearly two years, the South African government was unable to contemplate any imminent withdrawal. The relationship between its occupation forces and the Zimbabwean population was not getting better. It was stuck with a burdensome responsibility which it could ill afford, as it also continued to face the devastations of AIDS as well as the World Depression.

The Middle East was, as always, the world's most explosive area. Israel's Prime Minister Benjamin Netanyahu pursued a divide and rule policy towards the Palestinians, extending the olive branch to Fatah which ruled the West Bank, while treating Hamas and Gaza very harshly. As a result, economic conditions improved on the West Bank and deteriorated in Gaza.

In December of 2015, eight Hamas terrorists managed to sail two inflatable dinghies into Israel's Ashdod harbor. From there, they shot their way into the city's brand new hospital and killed 76 people, including patients and staff, before being all killed by units of the IDF.

To Prime Minister Netanyahu, this was a *casus belli*. In January of 2016, Israel

reoccupied all of Gaza and began to systematically eradicate Hamas. Thousands of Palestinians and seven hundred Israeli troops died. As always, the world exploded in an orgy of Israel-bashing, while the US remained Israel's lone supporter. This did not endear President Obama to the Middle East, or to vast segments of the public in Europe and elsewhere in the world.

In Iran, Mahmoud Ahmadinejad was replaced as President by Mohammad Ghalibaf in the election of 2014. Ghalibaf was considerably more liberal than his predecessor. Soon after his election, he made friendly overtures to the American government, proposing direct negotiations to deal with all outstanding issues, including Iran's nuclear program and re-establishing diplomatic relations. This displeased Iran's supreme clerical leader Ali Khamenei so much that he fired the new President and replaced him with his own man.

Again, President Obama was finding out the hard way that much as he might wish, the world did not run on goodwill and affection. He toughened his stance towards Iran, categorically refused to have anything to do with the puppet government put in place by the clerics. He also ordered the Fifth Fleet to renew intensive patrolling of the Persian Gulf. The rest of the world, especially the Middle East, Europe and Russia, was appalled by what it saw as American belligerence, and the Obama administration's return to a Bush-like foreign policy. The situation became even more flammable when Iran finally exploded its first nuclear device in 2016. Obama's successor - Hilary Clinton - inherited a huge headache.

1. 2016-2052. THE UNITED STATES

1. Introduction: Countries, civilizations and empires decline. Some temporarily, some for good. The decline of the United States began during the first half of the 21st century, and it accelerated after that. Not that Americans did not try to reverse it. The country's leadership vacillated between well-meaning and even competent politicians who took progressive steps in an effort to secure a better future for the people, on the one hand, and destructive, retrograde demagogues who did everything in their power to turn the clock back, on the other. The long-term result was often chaos, paralysis and slow decline.

Millions of Americans were the victims of the country's deindustrialization, and of its steady loss of jobs to the rest of the world. During the *New Progressive Era*, the government tried desperately to reverse the decline. As a result of the elections of 2016, 2018, 2020, 2022 and beyond, some necessary protectionist legislation was introduced, in an attempt to save American jobs, to promote exports and to staunch America's trade imbalance, through which the country's economy was hemorrhaging and becoming utterly indebted to China and to other parts of the world. But these measures helped only temporarily, if at all.

Furthermore, Republican obstructionism and corporate interests were able, through effective propaganda campaigns, to stymie much of the progressive agenda. Millions of misguided Americans remained convinced that globalization, unfettered free-trade, unregulated capitalism, out-of-control consumption and indebtedness were in their best interest. In fact these were precisely the road to perdition.

In the middle of the twentieth century, America had been the largest creditor on earth. It owned more than half of the world's gold, it exported goods to the entire planet, the dollar ruled the world, Americans lived like kings, and the country had plenty of money left over for domestic capital and infrastructure investments, for social services, for generous foreign aid to everyone, to be the world's peace keeper, and for the conquest of space.

Half a century later, America was the largest debtor nation in the world and its savings rate was the world's lowest. During the 2nd decade of the century, the dollar lost its role as the world currency, first briefly to the Euro and then, in 2038, to a newly created basket of currencies which combined the euro, the dollar, the yen and the Renminbi. By 2044, Only 8% of world trade was conducted in dollars any more.

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In 2030, US per capita income was 17th in the world. But even this was deceptive. Because the concentration of wealth was higher in the US than in any other developed country, the better measure of the general standard of living is *median* income. By that measure, America ranked number 41.

By 2050, pension plans based on *defined benefits* were something of the past. Fewer than 5% of retirees still enjoyed such benefits. most of these were teachers and other public employees vested with systems such as the California Public Employees Retirement System (CALPERS). They had retired before 2030, when *all* pension plans in the US, including public ones, switched to a *defined contribution* system. A few million retirees were grand-fathered in under the old agreements. The rest of the labor force - nearly 200 million Americans - now depended for their retirement nest egg on Individual Retirement Accounts (IRAs), Tax sheltered Annuities (TSAs) and other defined contributions schemes. In other words, retirees were now at the mercy of the fluctuations of the stock market. Americans were forced to gamble with their retirement money.

The major exception to this was Social Security: George W. Bush was the last President to attempt to privatize that program. After him, the Democrats controlled both the White House for 24 years and Congress for much of that period, and no more was heard about privatizing Social Security.

Congress wisely followed through with the gradual upward adjustment of maximum benefit retirement age. By 2040, no one could start collecting benefits before turning 68, and maximum benefits did not commence until 72. Thanks to these measures, the program was once again solvent.

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The stock market became permanently bearish. At the end of the Obama Presidency in 2017, the Dow Jones stood at 9,500 - the same as 8 years earlier. During the three decades that followed, it fluctuated between that level and 13,000, never exceeding the latter number. It was stuck.

As a result, corporate profits remained anemic, far from the astronomical levels of the first seven years of the 21st century. Of course, part of this was due to the far more stringent regulations imposed on investment banking and on Wall Street in general. It took the democratic administrations a decade to accomplish this, but in 2021, finally, the SEC was merged with the host of other regulatory agencies into the new ***Federal Regulatory Council (FRC)***, with vastly enhanced regulatory powers.

For decades, the polarization of income in America had been proceeding at an alarming rate. In 1980, the average American CEO had enjoyed an income 39 times higher than that of his average employee. By 2008, that number had skyrocketed to **360!** Nothing even approaching this appalling level of iniquity existed in other industrialized countries. In Japan and Europe, CEOs still only made 35 to 40 times what their employees earned (Comfortable enough).

And that is the level at which income inequality remained, after 2018. American inequity remained worse than that of other developed nations, but at least it did not reach the extreme levels of countries like Mexico, India and Brazil.

The number of mergers, bankruptcies and corporate take-overs continued unabated. Worst hit was the airline industry. By 2038 there were only 3 major and half a dozen regional airlines left, and they had *all* gone bankrupt. Finally, the government intervened in a drastic manner which nobody would have thought possible: Congress and the President called for and supervised the merger of all remaining airlines into one national company, modeled after *Amtrak* and after foreign national airlines such as Air France, Lufthansa, Qantas, Aeroflot and Japan Airlines. The new company - called ***Amair*** - was partially owned by the government, as were other recently nationalized industries. It was the third largest airline in the world, after Air China and Eurair.

The other earth shattering merger was the one between Apple and Microsoft. In 2039, the two giants finally combined their resources, creating a virtual monopoly in the American computer industry. For the first time since the advent of the PC and the laptop, 90% of the world's computers would henceforth operate on one standardized system.

The nation's balance of trade remained in the red, primarily due to the exorbitant cost of imported oil: By the 2030s, America imported 85% of its oil. The country was making desperate efforts to reduce its oil consumption, and it tried to wring every last drop out of its domestic sources, including ever deeper and more destructive off-shore drilling in the Gulf of Mexico in the Pacific and off of Alaska. Some caution was applied, after the lesson of the 2010 Gulf Oil disaster. Between 2016 and 2052, there were three mid-sized oil spills - all in the Gulf of Mexico. While none of them exceeded the 200 million gallons which had leaked into the Gulf in 2010, their combined total did. The Gulf Coast was now a permanent disaster area, unfit for leisure or for fishing. In 2052, the population of New Orleans hovered at 50,000.

Despite desperate domestic drilling, by 2040, imports stood at 10.5 million barrels a day. While this was down by one fourth from twenty years earlier, the cost was not: At \$420 a barrel,

this meant an annual bill of \$1.6 trillion.

This enormous oil bill accounted for the bulk of America's trade imbalance with the rest of the world, which stood at \$1.7 trillion per year. The country managed to export some services and a very few industrial products. For example, Boeing had recaptured 70% of the passenger airliners market share from Airbus. However, climate change had done such damage to American agriculture that the country was not only no longer the world's major food exporter, but it even had to import an increasing part of its food from overseas.

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After Barack Obama's presidency ended in 2016, it was followed by 16 more years of Democratic Presidency. First Hillary Clinton, and then a third Democratic President - John Alonso. Liberals compared the period to that of the five good emperors who had succeeded each other in ancient Rome during the second century AD.

They wishfully called this the *New Progressive Era*. Actually, America continued to face daunting problems. Some of the worst trends and policies which had been under way during the administration of George W. Bush at least came to an end. However, the country remained in turmoil and sharply polarized. A sharp reaction set in among millions of white middle-class Americans. Due to obstruction by the Republican Party and groups such as the Tea Party, the country made little headway towards the solution of its deep-seeded economic problems.

At least, several of Bush's tax policies were reversed. The threshold for the inheritance tax was lowered and the top tax rates were increased, as were corporate taxes and capital gains taxes.

2. Jobs and Work: The changed economy produced a cultural change: When something becomes scarce, it becomes more valuable. This is what happened to work: At no time during the New Progressive Era did the unemployment rate dip below 8.5%. And even this was accomplished with the aid of furloughs and other devices which were meant to *spread* available work among a maximum number of workers. France and other European countries had been doing this for years, reducing the official workweek to 35 hours for example. Now Americans were doing the same thing. Also, those who were unemployed or under-employed frequently did volunteer work and "internships" for no pay, hoping that this would be a gateway to a paying job.

America's turn towards an obsessive work ethic began to manifest itself as far as back as the 1970s, after the end of the Counterculture. Back then, Feminism was already praising the massive entry of women into the labor force, extolling work values over family values. Little was it realized at the time that this was an ideological rationalization of a need, not a blessing. In the 1950s, American families had been able to live comfortably on a single income. But this became gradually impossible. Now American families needed dual incomes to maintain their standard of living. Under the guise of women's equality, Feminism helped to redefine vice into virtue.

The global economic competition which became increasingly fierce from the 1990s on

also contributed to this cultural shift. Work and productivity became central cultural values, not just necessities. Work became synonymous with virtue, with self-actualization, with identity, with meaning. The workweek became longer, people took ever shorter vacations. Being on welfare was more stigmatizing than ever, and welfare rolls continued to decline, due to ever stricter guidelines and work requirements. Being a “mere housewife” was equally frowned upon.

And now, the more competitive the job market became, the more precious one’s job became to the average American, the more dedicated he became to it.

Even the average number of hours slept declined from 8 hours per night in the 1970s to under 7 hours by the 2020s. And conveniently, new medical research came out to “prove” that it is healthier to sleep only 6 hours per night than to sleep eight or nine hours.

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In the 1950s, the famous Russian-American sociologist **Pitirim Sorokin** formulated a *Law of Polarization*: “When a society experiences some frustration or emergency, the bulk of its members who in normal conditions are neither too saintly nor too sinful, tend to split and polarize, some becoming more religious, more moral and saintly, while the others become more irreligious, more cynical, sensual, and criminal.” (1956: 183).

Something like this was now happening in America, and at least for the time being, the “good” seemed to be in the ascendency. Along with the new work frenzy, crime continued to decline (thanks, also, to the most punitive criminal justice system in the world). Sex also declined. A new quasi-Puritanism was afoot. Both adults and teenagers were having less sex and fewer sex partners, they remained virgins longer, more people lived monogamously (either as married couples or as domestic partners). Of course AIDS had long contributed to the more prudent sexual attitudes.

Americans’ health habits were also polarized: While obesity remained a major problem for half the population, the *other* half exercised more vigorously and ate ever healthier food, and it drank and smoked less. Never before had the health club business been so lucrative. Never before had city streets and country roads been so full of joggers and bicyclists.

Finally, traditional religion remained at an all-time high. Thus, the new America had responded to the challenges of the 21st century by becoming - in a word - more *serious*. Future generations would have to judge whether this was good or bad. It certainly meant a decline in leisure and in fun, a neglect of art and of beauty, and a more humorless society. However, it wasn’t Armageddon. American society was adapting to a new, harsher, global reality.

THE WORK SOCIETY

“By 1960 work will be limited to three hours a day.”

John Langdon-Davies (British journalist and
Fellow of the Royal Anthropological Institute,
in *A Short History of the Future*, 1936.

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By the 2030s, America had become the *work society*. Few people would have predicted this fifty years earlier. During the 2nd half of the 20th century, sociologists forecast a future of lavish leisure. Tom Kando, Max Kaplan, Abraham Maslow, John Naisbitt, Charles Reich, Jeremy Rifkin, Alvin Toffler and others predicted that the workweek would continue to decline, that humanity would self-actualize through play and through art, while advanced technology would take care of work and of our material needs.

The opposite happened. In the new culture, civilization and progress were equated with work. Leisure was increasingly viewed as something quaint, something of the past, something to be looked upon the same way as we look upon tribal life. Tribal man only exerted himself for the minimal satisfaction of his physical needs. He only went hunting or gathering when he was hungry. Otherwise he spent the day sunbathing, like the lion in the Savannah. Civilized man was the opposite.

The resurgence of work was worldwide, with America leading the charge. At the turn of the 21st century, the Europeans still cherished their leisure far more than did Americans, having much more of it. Neither was “being on the dole” as much a stigma or an imposition in Europe as it was in the US. However, Europe was not far behind the curve. The French workweek had reached a minimum of 35 hours in the late 20th century, but President Sarkozy raised it to 40, as he raised the retirement age. Asians were also working more than ever, and so were, for the first time, Latin Americans.

But America remained the leader. Not only was leisure increasingly frowned upon, but retirement was dreaded. In 2040, twenty five million Americans aged 75 or older were still working. The dual-income family had long been replaced by the triple and quadruple-income family, where both parents, the older children, and the grandparents all had jobs. Millions of people moonlighted, had second jobs and worked overtime. When people went on vacation, it was a three-day jaunt to Las Vegas or a five-day Hawaiian trip. For a visit to Europe or to another continent, a couple might “splurge” an entire week.

And paradoxically, all of this was happening precisely during a period when jobs were harder to get, due to continued competition by and outsourcing to foreign countries. What was happening, was that Americans valued work so much that they were eager to work for lower pay, and often even for no pay - in the form of volunteering, training and “internships” as possible entry ways to a paying job later on.

Meanwhile, the dual energy/environment crisis continued unabated. Progress on the energy front was mixed at best, despite the exhortations of President Barack Obama, of Al Gore and others. Weaning America from foreign oil dependency was easier said than done.

Reduced consumption due the economic crisis helped. There was an increase in car pooling, in the number of hybrids, electric cars, small cars and two-wheeled traffic (motorbikes, scooters, mopeds and bicycles). However, progress on new infrastructure, on mass transit and on shifting habits was slow. The private car remained the dominant form of transportation.

American cities had developed during the age of the automobile. Leapfrogging and sprawl had been the common practice for a century. This was especially so in Western cities such as Los Angeles, Phoenix, Las Vegas, Houston, Oklahoma City and Sacramento, where land had been cheap in the past, but which were now suffering from growing water shortages. In such cities, an underground rail grid would be prohibitively expensive, and even an above-ground light rail or bus system was costly and cumbersome. Thus public transportation remained inadequate and unpopular.

As to alternative energies, progress was made with solar and wind energy, but ethanol turned out to be a dead end. Coal made a big come back, causing a substantial increase in air pollution. The 2011 nuclear accident in Fukushima slowed down the hoped-for nuclear revival. Only 3 new nuclear power plants were authorized during the Obama administration, and they did not come on line until 2034. By then, another 25 plants had been authorized, but 36 had been decommissioned over the past 25 years. Thus, America's nuclear energy production still trailed that of Europe and Asia.. Its 98 power plants only produced 10% of its electricity, far less than in some other countries.

But the greatest threat of all to the country's future was the growing water shortage. Between 2017 and 2027, the country's temperature broke records five times. In California and in the Southwest, water shortages reached critical levels. Because it was the lifeblood of Las Vegas and a major source of water and electric power for Los Angeles, Phoenix and other megacities, Lake Mead's water level was maintained at an artificially high level by pumping Lake Powell totally dry, returning it to the desert which it was before its appearance in the movie *Planet-of-the-Apes*.

3. Domestic Politics: Some major new policies during this era have already been mentioned. One, the creation of the national airline *Amair*, resulted in an incredible increase in the efficiency of civil aviation.

Until the early 2030s, air travel had become nightmarishly costly and cumbersome, despite the fact that the government had begun, in 2008, to modernize the nation's air traffic control system by switching from an antiquated radar grid to a satellite guidance system. The conversion process took several decades and cost over \$200 billion.

For decades, airlines had been buffeted by one thing after another - 9/11 and the ensuing security requirements, the exorbitant cost of oil from the 2010s on, the sharp decline in the volume of traffic caused by the Great World Depression, etc. The public perception had always been that during "normal" economic times, major airlines were often raking in juicy profits while treating the public shabbily. The truth was that the airline business had *never* been lucrative. It has been calculated that since the inauguration of flight by the Wright brothers in 1903, the airline industry had, *on average, always* operated at a loss. Most of the world's

governments understood that air travel could no more be a profitable business than education or health care. That is why in most countries air travel was a public service provided at a loss (i.e. at taxpayer's expense), by the government, i.e. by a national airline. The US had long been the exception.

However, by 2038, every single American airline had bitten the dust. Despite ever more painful cost-cutting measures, every single airline in the United States was bankrupt. *All* airlines had become commercially unviable. The cost-cutting had led to an incredible deterioration of services. A 2036 survey revealed that (1) only 9% of all flights arrived on schedule, (2), the average flight delay was nearly three hours, (3) 67% of all flights were canceled or re-scheduled, (4) 61% of all baggage failed to reach its destination properly, and (5) international travelers were now required to show up *four* hours before departure. Fatalities due to accidents had not increased significantly, but near-misses had (and there were several horrific international highjackings described below). In 2034, airlines carried a total of 1.126 billion passengers - twice the number at the turn of the 21st century. Yet the country still relied on the same antiquated hub system which it had been using for half a century.

Finally, the National Aviation Act of 2038 placed the Federal Aviation Administration in charge of the airlines - in effect putting them out of their misery by nationalizing them.

During the following four years, the country's civil aviation system was thoroughly reorganized. *Amair*, as the new quasi-governmental corporation was named, was modeled partially after *Amtrak* and partially after NASA. It hoped to combine the former's profitability with the latter's technological efficiency. The nation's air traffic control system's transition to a satellite guidance system had been completed in 2035, and the old hub configuration was now replaced by a streamlined system which no longer required passengers (and their baggage) to make wide detours and remote connections on their way to their destination. No longer did Tom's mother Edith, flying out of her home in Minneapolis, have to connect in Miami to go visit him in Sacramento.

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SAWIT: One of the most colorful policy initiatives during the entire New Progressive Era occurred in 2032: As mentioned earlier, The Obama-Clinton Democratic dynasty which began in 2008 continued beyond 2024, when outgoing President Clinton's Vice-President **John Alonso** was elected to succeed her. Alonso was a 7-foot former NBA star, affable and highly charismatic. He was as liberal as his predecessor, but more prone to compromise. One might have expected him to therefore move rightward - towards the political center.

However, the opposite took place. Why? because Alonso surrounded himself with a cabal which was ethnically highly diverse and liberal. Members included the venerable professor Cornel West and movie director Spike Lee, among others - the former as Secretary of Education and the latter as head of a newly created cabinet position: the Department of Cultural Affairs. Most members of Alonso's cabinet and their staff were ultra-liberal, brilliant and Machiavellian. Their agenda was not just "liberal," but it was unabashedly pro-minority. These men exerted a growing influence on the President. In time, the cabinet became little more than an interest

group.

The pay-off came in 2032, the last year of Alonso's presidency, when Congress finally passed the *Sub-Saharan African Worker Indemnification Tax - SAWIT*. The bill authorized the government to pay African-Americans reparations for their ancestors' slavery.

The act's contorted name bears comment: By the 3rd decade of the new millennium, American race relations had improved a great deal. There had been much talk of post-racialism during the Obama presidency. However, there was also lingering polarization. On the right, resentment of and reaction to the growing influence of minorities was palpable, and on the left, the forces of political correctness continued to do gratuitous violence to the language. As usual, this came primarily out of the academic world. For example, several new politically correct labels had entered the racial lexicon. Blacks now preferred to be called *Sub-Saharan Africans* rather than African-Americans. This neologism satisfied two needs: (1) It distinguished Americans of African descent from the largely Arab population of North Africa. (2) It minimized identification with America.

In addition, the word *slavery* was being phased out and replaced by "*forced labor*," "*forced work*," or "*kidnapped labor*." The new terms, again, served several psychological purposes: (1) they were more dignified than the outdated word "slavery." (2) They distinguished the history of African-Americans from the general history of slavery, which had included the enslavement of Europeans and Asians as well. (3) They expressed the terrible victimization which slavery had been.

SAWIT was highly controversial and divisive. Its opponents had a heyday with the acronym. Some spoke derisively of "I saw it," as in "I saw it coming!" others (blacks themselves, primarily) referred to it as "save it," as in "put the reparation check in your savings account."

The amounts paid out were extremely modest. The victory was largely symbolic. It was the culmination of years of pressure by the NAACP and by other black interest groups. After all, if the descendants of Japanese Americans who had been interned during World War II could be compensated, then surely the descendants of African-American slaves deserved no less.

Now, with the election of the second black US President in a decade, the moment seemed opportune to press the demand more vigorously. The wrangling had been going on for decades, but at no time had the issue become more center-stage than during Alonso's presidency. The action was increasingly taking place in the street. Massive demonstrations were held under such banners as "Reparations Now," and "Justice for the People."

In 2031, the bill was presented to Congress and it was debated for several months. The nation held its breath. There was growing fear that a negative congressional vote might be followed by urban violence of the type experienced by Los Angeles in 1964 and 1992.

The problem with raising people's expectations and then frustrating them is that it is likely to lead to violence. This is what happened when the black people of Los Angeles had been expecting retribution against the peace officers who beat up Rodney King, but did not get it. What tends to happen next in such cases, is also familiar: the threat of street violence cowers the

establishment into appeasement and concessions. And just as the bloody 1992 Los Angeles riot was followed by a reversal of the acquittal of the officers, so now Congress was swayed to approve SAWIT, more by fear for the consequences of voting it down, than by a true belief in justice, or by the bill's inherent merit.

However, the payments turned out to be puny. The government had continued to operate in the red throughout the first third of the 21st century, and it was as broke as ever. Therefore, the maximum benefit granted by SAWIT to any individual was \$47.78. When several members of the same family were to be granted benefits, these did not simply multiply, but followed a sliding scale of diminishing amounts, as more members applied. For example, if a relatively large extended household of, say, seven members applied for SAWIT benefits, the total indemnification payment could not exceed \$250, i.e. \$35.71 per person.

Furthermore, collecting benefits required wading through a bureaucratic morass. In the first place, every applicant had to *prove* that he/she was a descendent of *Sub-Saharan- African-kidnapped-laborers* (= slaves). Ancestry had to be documented and three witnesses had to sign affidavits in support of each application.

Also, Among the 100+ questions on the application form, one pertained to the degree of remoteness between the applicant and his/her slave ancestor. The degree of remoteness determined the size of the benefit. For example, if the applicant's slave ancestor was less than 7 generations removed, the applicant was considered a "Category One" applicant, i.e. entitled to the maximum benefit of \$47.78. However, if the history of slavery in one's family went back 8 or more generations, the benefit for such an applicant (a Category Two or Category Three applicant) was reduced. Similarly, if one was a slave's direct-line descendant - one's great-great-great-great father was a slave - one's benefit was higher than if the relationship was to great-great uncles, aunts, etc. Applications had to be submitted in triplicate to the Federal Redress Commission, the body which had been created for the purpose of evaluating the applications and disbursing the benefits.

The American Bar Association and the ACLU jumped into the fray, offering to come to the rescue of the millions who were entitled to reparations, but who weren't in the least capable of navigating this bureaucratic nightmare. A team of lawyers was appointed to bundle together thousands of applications and treat them as class actions. The rub was that the lawyers charged a 33% contingency fee, reducing the maximum benefit from \$47.78 to \$31.85.

Thus commenced a litigation process which would probably not end before the end of the century. One was reminded of the fact that litigation about benefits for the victims of 9/11, for their relatives and for World Trade Center survivors, was still under way, 31 years later, with over half of the potentially qualified applicants already dead.

It was estimated that total reparation payments could amount to three billion dollars. Sometimes, the ABA lawyers bundled together large groups of applicants, for example the million and a half applicants residing in the greater Detroit area. Out of a collective disbursement of \$60 million to this group by the Redress Commission, the lawyers would pocket \$20 million, while the average reparation recipient got less than \$30. Altogether, the ABA team would collect a billion dollars.

In life, the punier the stakes are in a situation, the more ferocious the fight over them tends to be. The fight over reparation benefits illustrates this. The struggle pitted individuals, families, neighborhoods, cities, communities and entire states against each other. For example, the city of Saint Louis challenged Detroit's census figures, accusing that city of inflating its black population. States with low black populations (the Dakotas, Montana, Idaho, etc.) tried to inflate their numbers, arguing that African-Americans had been undercounted because of their small numbers and their low clout to begin with. There were innumerable additional law suits, all benefitting the lawyers and further reducing the already meager benefits.

SAWIT was the last major policy introduced under President Alonso's watch, and it certainly did not help him, or the Democratic Party. The policy had been opposed by a majority of the American people in the first place, and it was followed by the disastrous implementation just described. The mess reminded one of the food hand-out which followed the abduction of Patti Hearst in 1974. Back then, the Symbionese Liberation Army had demanded that the Hearst family hand out \$400 million dollars of food to the poor in the Oakland-San Francisco Bay Area. That distribution was a fiasco and it greatly affected public opinion.

The same thing happened after the implementation of SAWIT. President Alonso's popularity dipped below 20%. The campaign which followed resulted in the election of the first Republican President in 24 years, and the Tea Party's last hurrah.

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The Mexican Border: Relations with Mexico remained a thorny problem throughout the New Progressive Era, and beyond. There was of course the perennial immigration problem. In addition, Mexico was verging on becoming a failed state as a result of its drug wars. Violent border incidents were on the rise.

The 2016 border shoot-out discussed in the Introduction was only one of several incidents which exacerbated the relationship between the two countries, and by no means the most serious one. It was followed by the *Nogales Incident* in 2021, a major shoot-out along the *Rio Grande* in 2028 and the *Pretorius Incident* in 2032. The first and last of these events were acts of terrorism, and they are therefore discussed in the next section of this chapter. Here, I shall only discuss the conflict which took place on the shores of the Rio Grande, 45 miles South of El Paso, in 2028:

The 2016 border shoot-out had polarized US public opinion somewhat. On the one hand, a growing number of Americans favored a more liberal immigration policy. This included the ever larger number of Hispanic Americans, and it enjoyed the support of the Democratic administration in Washington. On the other hand, those who clamored for tighter border controls were also gaining strength, especially once the Mexican drug wars began to ebb over the border. This group felt that the time had come to erect a hermetic wall between the US and Mexico, once and for all. There had been grassroots efforts to seal the border for many years. These took place mostly in Texas and in Arizona. Vigilantism had taken place for a long time, supported by political action groups. These groups were strongest in the Southern US, among white

Republicans and members of the Tea Party. However, the idea of a wall was initially laughed off by most Americans, as well as by the federal government.

But then, in 2021, a group of narco-terrorists entered the US from Nogales and almost pulled off an attack so devastating as to make 9-11 look like a picnic (see following section). This jolted the country and caused millions to join the ranks of the proponents of “the Wall.”

President Hilary Clinton and the Mexican government tried to argue that this was not the answer, that such a wall was an abomination and a racist reminder of the Berlin Wall and of the Iron Curtain, but Americans’ renewed fear of terrorism was an unstoppable juggernaut driving the country’s foreign policy. The President had little choice. In 2023, Congress appropriated \$50 billion to complete a 30-foot metal wall from San Diego to Brownsville, topped with razor wire, interspersed with watch towers every three hundred yards, equipped with video cameras and electric sensors, and surrounded by land mines. Construction commenced in late 2024 (lawsuits by environmentalists delayed construction for a year and a half). By 2027, nearly one hundred miles of the wall had been completed (one twentieth) at the cost of \$5 billion. Optimists expected the entire structure to be done in about fifteen years, with a cost overrun of about 100% (they estimated the bottom line at \$100 billion). They argued that after a slow start-up, construction would speed up. Pessimists predicted that the wall wouldn’t be complete until the middle of the century, at a total cost of a quarter of a trillion dollars.

In addition, the Immigration and Naturalization Service’s budget was augmented to allow for a *tenfold* increase in border agents. Meanwhile, there was also a steady increase in the number of armed vigilantes who took it upon themselves to patrol the border.

By the end of the decade, the number of shootings had reached 15 to 20 per month, often resulting in the death of many illegal immigrants, and also in the death of several vigilantes. Sometimes the shoot-outs pitted vigilantes and INS border patrols. More often, they involved members of the drug cartels and the Mexican police (often one and the same).

Mexican border towns such as Nuevo Laredo, Juarez and Tijuana were now under the total control of drug lords, whose turf wars cost the lives of thousands upon thousands of people every year, including gang members and innocent Mexican and American civilians. In many of the border shoot-outs, it was difficult to disentangle the roles played by the vigilantes, the INS, the “coyotes,” the drug lords, the corrupt local Mexican police and federal Mexican law enforcement. And then, things got worse.

The Rio Grande Incident: The summer of 2028 witnessed the single most violent US-Mexican border conflict since Pancho Villa’s raid into New Mexico in 1916. Fortunately, it happened on John Alonso’s watch. Had a more conservative President been in charge, the two countries might have gone to war. What happened?

The wall had not progressed very well. It had become a bone of contention. Neither President Clinton’s nor her successor’s hearts were in it. While congressional Republicans and conservative Democrats managed to pass lavish annual appropriations for the project, the administration was dragging its feet. President Alonso tried to salvage a good-neighbor relationship with Mexico. Thus, four years after construction had commenced, only 150 miles

had been completed. And this only caused the ranks of border vigilantes to swell.

On August 3, 2028, a group of vigilantes attempted to round up three dozen illegals who had just crossed the nearly dry bed of the Rio Grande forty five miles South of El Paso. Some of the illegals attempted to flee back towards Mexico, and the vigilantes shot at them, killing several of them, including some women and children. At that moment, INS agents drove up and prepared to disarm and arrest both the illegals and the vigilantes. Before they could do so, shots were fired from the Mexican side of the riverbed. They came from Mexican *federales*, who had witnessed the murder of the illegals and were attempting to retaliate against the Texas vigilantes. Eight vigilantes were mortally hit, and so were five of the INS agents. Their colleagues immediately returned fire, killing several Mexican policemen. By the end of the fracas, twenty eight Mexican cops were dead, along with eight US border patrols, fifteen vigilantes and thirty four illegals, for a total death toll of eighty-four.

The ensuing brouhaha was enormous. Mexico threatened to cancel diplomatic relations with the United States and it demanded an emergency meeting of the United Nations. At that meeting, five days later, the general assembly passed a resolution condemning America's reckless immigration policies and the wall it was erecting along the Mexican border. Two hundred and three countries voted in favor of the resolution, one abstained (Israel) and one voted against it (the U.S.).

Domestic protest was also vociferous. Marches and demonstrations were held by millions of Hispanics, joined by college students and by groups such as the ACLU. Extremists demanded that President Alonso be impeached, calling him and the border wall racist and fascist. Yet the shoe hardly fit. After all, President Alonso was hardly a rabid, right-wing, xenophobic anti-immigrationist. To the contrary, he had already spoken out against the reckless border vigilantes on several occasions, and he had also expressed his misgivings about the wall.

On August 28, he addressed the country. He stressed that he was appalled by the bloodshed. He extended his profound apology to the Mexican President, assured him that he did not condone vigilantism or racist violence of any sort, and he invited him to Washington to discuss all immigration-related issues. He promised that the culprits would be punished, and that he would put an end to border vigilantism forthwith. Then, he dropped a bombshell on a captivated nation by announcing that he was ordering the army to the Mexican border immediately in order to disarm all vigilantes.

President Alonso's response to the crisis was shrewdly based on both pragmatic and on moral grounds: His desire to put an end to the vigilantism and to the border violence was motivated by genuine humanitarian concern for immigrants, concern for Hispanics and sympathy for the Mexican government's point of view. After all, he had a long history of civil rights activism and of concern for society's less fortunate members. Did he have to remind the world of the color of his own skin?

At the same time, sending the army to the Mexican border was a savvy political move aimed at mollifying both the right and the left: On the one hand, it was ostensibly aimed at the vigilantes, a move not unlike President Eisenhower's 1957 decision to send the army to Little Rock to enforce school racial integration. This would go a long way towards satisfying the Left, which had taken to the streets. On the other hand, any time a country sends soldiers to its

borders, the inescapable message is that it aims to protect itself against *outside* forces - be they undesired immigrants, drug lords, or a saber rattling neighbor country. The political Right would have no difficulty seeing this.

However, as the army took up its positions on the Texas and Arizona border, it now became the Right's turn to hit the streets, in a number of counter-demonstrations meant to remind everyone that the millions who had marched the previous week only represented one side of a deeply divided country. The counter-demonstrators, thousands of Tea-Partiers among them, expressed support for the vigilantes and for the wall. Massive funerals were held for the fifteen vigilantes and eight border patrolmen.

One of the politicians who was already campaigning for the 2032 presidential election was a young Texas Republican senator named Samuel Huntington the Third. In 2022, he had spearheaded the campaign to fund the wall. The 2028 border crisis injected renewed patriotism into his campaign speeches. After President Alonso sent the army to Texas and Arizona to disarm the vigilantes, senator Huntington spoke of his sadness at seeing "Americans shooting at Americans." When asked about the border violence which was costing lives on all sides, including those of illegals, of vigilantes, of Mexican police and of US border patrols, he replied that the "unfortunate bloodshed was the byproduct of the real problem, which was the intolerable influx of illegal immigrants and criminal gangs into the United States," adding that "you can't make an omelet without breaking eggs" and that the main thing was to "keep your eyes on the ball." "Keeping your eyes on the ball" became his main campaign slogan. The wall had to be completed A.S.A.P. America had to regain control of its border and its national sovereignty.

Although President Alonso had hoped that sending the army to the border would help him politically, it did not. His approval rating declined to 40%, while that of Senator Huntington rose to 45%. There was fear and xenophobia, but there was an equally strong hostility to a return to red-neck nativism. Times had permanently altered America's character. The country was split down the middle. The Tea Party remained vociferous (although its numbers never reached the level which it had enjoyed from 2010 to 2012).

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The New Progressive Era came to an end in 2032. Sadly, border turmoil and terrorism (see next section) were the forces which drove the American electorate rightward. In that year, the conservative Republican Samuel Huntington became the 47th President of the United States. However, this turned out to be the last gasp of Republican power. Huntington was elected because of American frustration about immigration, border violence and terrorism. But he went on to botch things up so royally that four years later, the country pulled back from its militant rightward lunge. (see Foreign Policy section, below).

During the 2040s, the US economy continued to struggle and to loose ground vis-a-vis the rest of the world. However, the country no longer pursued ruinous foreign policies, and American life was relatively turmoil-free. Much of the remainder of the period under discussion

(2016-2052) leads up and is a prelude to the unification of North America under the *North American Union* (NAU). This thread is picked up in Chapter Three.

4. Crime and Terrorism: During the three and a half decades under discussion, the news from the crime front remained essentially good. Although there were some fluctuations in the crime rate from year to year, it never again rose to the levels it had reached during the last decades of the 20th century.

By 2016, America's jail and prison population had risen slightly - to about 2.5 million inmates. While America still locked up a higher percentage of its people than any other country in the world, the good news was that the proportion of prisoners, which had risen by an astonishing 5% per year during the previous two decades, was now stable. In 2016, America locked up 750 people per 100,000, about the same as twelve years earlier.

What caused America to come to its senses?

For one thing, at the federal level, ever since the election of President Obama in 2008 and the appointment and election of more liberal judges, the criminal justice system had become somewhat more lenient. In 2021 the Supreme Court once again found Capital Punishment unconstitutional. This happened after years of accumulated DNA evidence (collected by the *Innocence Project*) proved that there were *thousands* of innocent men languishing behind bars, some of them on death row.

But more importantly, the slowdown in lock-ups was *budget driven*: States - for example California - had simply gone bankrupt due to the run-away cost of their correctional systems. Thus, many states put a moratorium on new prison construction. They had to come up with more creative ways to control crime - ways that, incidentally, turned out to work much better.

The bad news was that the number of people under the jurisdiction of criminal courts continued to grow. It surpassed six million in 2021, i.e. 2% of the population, or 3.5% of the male population, or 19% of the male population aged 18 to 25, or 65% of the black male population of that age.

The good news was that more and more of these 6 million people were parolees and probationers, not inmates. The states placed more and more emphasis on out-patient rehabilitative programs, diversion and community treatment, especially for drug offenders and other non-violent criminals.

And lo and behold, the crime rate continued to decline! For example, by 2020, the murder rate dipped below 4.5 per 100,000 - less than half of what it had been a generation earlier.

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The Innocence Project continued, through DNA, to discover hundreds of innocent prisoners every month, some of them on death row. By 2030, eight thousand innocent prisoners had been released across the country, half of them black, and 60% in the South. The average time served by these men was 13 years. When asked to comment about this, Senator Huntington said, again, that "you can't make an omelet without breaking eggs." He argued that, while it was

important to reduce the number of innocent convictions, the benefits of a firm criminal justice system outweighed its imperfections, as witnessed by the continuing decline in crime. In sum, it was important that America “stay the course.”

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When the criminal justice system becomes more lax, as it did during the 1960s, this is usually followed by a rise in crime. Humans, like dogs, are Pavlovian - up to a point. But now, America’s crime rate remained stable, or even declined, despite the fact that the country had become less punitive. So much for the hypothesis that it was only through draconian measures that the US could maintain law and order. That hypothesis had long been accepted as axiomatic, along with the stereotype of America as a violent and criminal society, a society rife with racism and social injustice, a gun culture, a John Wayne, Hollywood, cowboy mentality. It had always been easy for “everyone” to understand why America’s crime rate was so much higher than that of the more “civilized” Europeans and Asians, for example.

But strangely, the American crime rate had now been converging with those of the rest of the industrialized world for several decades, declining steadily to the point where many other advanced countries’ rates of murder, rape and other violent crimes surpassed America’s - not to mention property crime, which had long been higher in Europe than in America.

The decline in crime in America during the first half of the 21st century is the more remarkable in view of several strong criminogenic forces at play during that period: For one thing, immigration continued unabated, most of it from Latin America, half of it illegal, and a huge part of it consisted of poor, young males - *the* most crime-prone segment of any population.

How was this possible, British, French, Scandinavian (*and* American) university professors wondered? It must be because America has become even more “fascist” than it already was, locking up millions of people. Or what about guns? Or an improved economy?

However valid these explanations might have been in the past, they were now not applicable: The courts had stopped sending more and more people to prison; the spread of guns was stable; the economy and unemployment were quite *bad*.

What the media and amateur sociologists failed to understand was that American *culture* was changing. The true reason why America no longer stuck out as exceptionally criminal and violent among advanced countries, was psychological. Something in the *minds* of Americans was changing. The country was undergoing a value shift. It was becoming more urbane, more sophisticated, more effeminate, if you will. No longer was a violent and war-like response the most immediate impulse in the face of problems and challenges. The country was *maturing*, following in the footsteps of Europe. Wine was replacing beer and whisky as the national drink. Imagine that! Americans were becoming a nation of French-like sensualists, and thereby less warlike. They were also becoming less expansive, rowdy, fun-loving, ebullient. In some respects, this could be seen as a loss - the loss of the youthful energy and the raw vitality which had traditionally distinguished the country. But it also made for a less violent society.

Another contributing factor was America’s enhanced cohesiveness resulting from

external threat. In times of war, a society's domestic rate of violence declines. This had happened during World War II. External pressure increases internal solidarity. Now, with the continued threat of foreign terrorism and several additional attacks upon Americans overseas, the country was too busy trying to protect itself to engage in infighting.

Finally, the country continued to age. No single variable correlates as strongly with a population's crime rate as its age. By 2031, American life expectancy was over 81 years - nearly five years longer than it had been a generation earlier. An increasingly geriatric population was not about to embark on a renewed crime spree.

And then, after 2032, things got even better. Two more things happened to further depress the crime rate: (1) as the Mexican economy improved and its drug wars abated, immigration to the United States slowed down. (2) The political pendulum swung back to the right and the criminal justice system began once again to lock up larger numbers of even non-violent offenders. By 2037, the prison population exceeded 3 million, i.e. nearly 1% of the total population. As so often in the past, trends in punishment had little to do with the crime rate, and much to do with popular frustrations and political demagoguery. At any rate, as America was approaching mid-century, its crime rate was one of the lowest in the world. The country was exceptionally safe and the people were very, very serious.

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As to terrorism, there occurred a conceptual shift: The public gradually became accustomed to the new reality of an ever-present terrorist danger. This was inevitable, as more than half the population experienced air travel. Security requirements had made air travel extremely inconvenient, and this was a far more personal and vivid reminder of the reality of terrorism than were the sensational news media or the periodic alarmist Homeland Security alerts.

In the mind of the people, then, the threat of terrorism had become a routine part of life - just like crime. It was understood that terrorism is something that must be *managed*, but cannot ever be fully *defeated*. The struggle against terrorism is *not a war* - with a beginning, a middle and a victorious end, or a clearly identifiable enemy. It is a never-ending *policy*, like the fight against crime, drugs, and other social problems. Like crime, terrorism can be reduced, but it can never be fully defeated.

As so often, the government *followed*, rather than led, public opinion in this regard. It, too, stopped using the "war" metaphor when talking about terrorism, instead increasingly referring to the effort as a never-ending containment policy or management policy. Of course, this shift in vocabulary could only occur after America had fully disengaged from Iraq and Afghanistan during the last years of Obama's Presidency.

Illustrative of the new perspective was what President Clinton said in an address to the UN General Assembly in 2023: "Violent conflict stemming from real or perceived injury and injustice are part of the universal and eternal human condition. It is our responsibility to minimize such conflict by reducing real injustice, by avoiding international misunderstanding, and by using force when necessary. Above all, we must act as a global community, and we must act against lawlessness. Our job is never done."

Lofty words, of course, are no substitute for effective action. Whether viewing the struggle against terrorism as a war which can be won within a specific time-frame, or as part of the ever-lasting conflict between the forces of order and the forces of chaos, the success of different statesmen during this period depended more on their actions than on their rhetoric.

Many will remember the Clinton Presidency as successful in this regard, because there was only one major terrorist incident during her two terms (the 2021 Nogales Incident), and no wars. In contrast, the country experienced both war and terrorism during the presidencies of her predecessor, Barack Obama, and her successor, John Alonzo. However, she may not deserve all the credit. After all, it was Obama who had finally wound down America's dual Middle Eastern war. The relative peace during President Clinton's two terms may have been a momentary lull, a lull punctured by the Nogales Incident even so. Nor was the world free from "minor" terrorist attacks against Americans overseas, as well as international conflicts in which America supported one of the combatants, at least economically and diplomatically. Fortunately, the United States remained a hard target. Its greater geographical distance from the world's worst trouble spots - the Middle East and Africa - continued to be an advantage, for example compared to Europe. However, it was open season on Americans overseas - tourists, diplomats, businessmen, the military. Despite travelers' advisories issued for Indonesia, for much of the Middle East and for Greece, several Americans were kidnaped and murdered in those countries.

The Nogales Incident: The most shocking event during the Clinton presidency was a severe border incident: On the night of July 4, 2021, while America celebrated Independence Day, an unusual group of "immigrants" tried to enter the country illegally in Nogales, Arizona, driving a beat-up old bus. The group included a dozen Hispanic men and, as it turned out, five Middle-Easterners. They were carrying ten kilos of anthrax, an amount sufficient to exterminate all of greater Houston's six million people. When confronted by INS border patrols, the group initially feigned to be a harmless Latin American illegal border-crossing attempt. However, border agents became suspicious when they discovered that some of the members did not speak Spanish.

When an agent attempted to inspect one of the men's large bags, all hell broke loose. First a scuffle, then a shoot-out, then a siege. The foreigners retreated behind their bus and the border agents called for SWAT back-up. Soon the area was crawling with local cops, FBI agents, police and media helicopters. The siege lasted much of the night, interrupted by sporadic shots coming from behind the foreigners' bus and return fire from the authorities. Shortly before dawn, still under cover of darkness, the foreigners began to crawl back towards the Mexican border. They were told to stop and - failing to obey - were all killed in a furious volley of automatic fire. It took the FBI, the CIA and Homeland Security several weeks to complete the *post-mortem*, to identify the eighteen men and to trace the anthrax in their possession. The group turned out to be an alliance of radical Islamists and Latin American narco-terrorists. The anthrax, only discovered after the shoot-out, was traced to Iran. This was the first major bio-terrorist attack against the United States.

The Pretorius Incident: The Nogales incident didn't do US-Mexican relations any good. However, President Hilary Clinton managed, through charm, tact and diplomacy to remain on good terms with America's chief neighbor throughout her two terms. For example, she did her utmost best to retard construction of the Wall, authorized by Congress. Her efforts were the more admirable, as the Mexican presidency had reverted to the PRI in 2012, which was far more hostile to the US and less eager to fight the drug cartels and to control border smuggling of both drugs and illegals than President Calderon had been.

It was John Alonso's misfortune to be President during both the **2028 Rio Grande Incident**, and the **2032 Pretorius Incident**. The first of these has already been discussed (see previous section). It exacerbated US-Mexican relations a great deal.

And then, something even worse happened. In 2032, the Mexican Embassy in Washington D.C. was blown up, resulting in the death of fifty-six visitors and employees, most of them Mexican nationals. There were initial speculations that this was the work of one of the drug lords.

However, the killers turned out to be white "nativists" who wanted to make a statement about out-of-control illegal immigration from South of the border. In a raid on a home in Arlington, Va., The FBI arrested a group of men and women led by their ringleader, Hendrik Pretorius. There followed a sensational trial which lasted over eight months. The "trial of the century," the media labeled this one, again. And indeed, not since the 1994 O..J. Simpson trial had any court case captivated the public as much as this event.

The star defendant was Pretorius. He was a tall, charismatic, bearded, sixty-year old, who had moved to the United States from South Africa as a young man. His accomplices included half a dozen groupies - four women and two men. They included a thirty-something woman by the name of Sarah Johansson, and a young man named Bill Voight, both with graduate degrees from first-rate universities. All of Pretorius' followers were white, middle-class and well-educated. Several of them used the protracted trial as a forum for their political message.

The trial was not only televised nationwide, but it was also video streamed, so that every computer owner *on earth* could view it on his monitor. U-Tube carried daily clippings of the juiciest aspects of the trial. The judge allowed Pretorius to deliver several speeches. In these, the zealot ranted about out-of-control immigration and race suicide. He compared America to ancient Rome and averred that our country was committing racial suicide in the same manner as Rome had done two thousand years ago. "Like the Roman Empire," the terrorist shouted to a national audience, "this great country's imminent demise will be the inescapable consequence of its loss of will, of its unwillingness to protect its national, cultural and racial integrity."

Meanwhile, hundreds of demonstrators had been marching and camping outside the courthouse for months. These people seethed with rage at defendants who were not only mass murderers, but who also proudly justified their heinous crime in unabashed racist terms. This surely was the mother of all hate crime! The demonstrators wanted blood. It was often mentioned that Tim McVeigh had received the death penalty for the 1995 Oklahoma City bombing. Surely Pretorius and his followers deserved no less, or was the killing of Mexicans

less of a crime?

During one of Pretorius' more incendiary harangues, the demonstrators managed to storm the courtroom. The authorities had to act quickly. Elements of the Pennsylvania National Guard arrived just in time to squelch the riot, clear the court and arrest several hundred people. Had this not happened, there is no doubt that Pretorius and his co-defendants would have been lynched.

Many felt that execution was the only appropriate punishment. There was enormous political pressure in that direction. Some of that pressure was international. The Mexican government followed the trial with keen interest and it, too, expected the ultimate form of retribution (even though Mexico itself, ironically, did not have capital punishment). The only problem was that the US Supreme Court had declared capital punishment unconstitutional in 2021.

This was remedied when the conservative Republican Samuel Huntington became America's 47th President in 2033, before the end of the Pretorius trial. The new president was soon able to appoint two conservative justices to the Supreme Court, which once again reversed the 8th Amendment and found the death penalty constitutional. This was convenient, because Pretorius and some of his followers could now be sent to the newly re-opened death row. There was jubilation in the streets and somber approval on the nation's editorial channels.

Flight 21: Samuel Huntington had been President for a year when, on February 3, 2034, an even bloodier act of international terrorism occurred: Air France's flight #21 was hijacked over the Atlantic, shortly after take-off from Kennedy Airport. For an hour, the new satellite-based air traffic control system tracked the flight's trajectory. But then, the plane disappeared, never to be seen or heard from again.

The lost aircraft was an Airbus 380C, with 950 passengers on board. About half of them were Americans, over two hundred were French, and the remaining passengers were largely other Europeans, with a sprinkling of other nationalities.

Despite a huge international search and rescue effort, no trace of flight #21 was ever found. Theories about the event abounded. During the hour before the flight's final disappearance, air traffic controllers had heard a great deal of talking and shouting on board through the cockpit radio. None of it was directed at the authorities, no terrorists ever identified themselves or made any demands. Their identity therefore remained speculative. Some of what was heard by air traffic controllers and by other authorities on the ground seemed to be accented French, for example orders shouted at the pilots, at flight attendants and at passengers. At other times, Arabic words could be detected.

Linguists spent months studying the tapes, in an attempt to determine the nationalities of the hijackers. The investigation (which also included a vast amount of ground intelligence) finally pointed towards a radical Muslim group operating out of French Central Africa, a region located at the confines of Southern Sudan and the former French colony.

Things began to make sense: Both France and the US had become increasingly involved in combating the genocide emanating from Sudan's Darfour region and increasingly spreading

to adjacent countries, including Chad and the Central African Republic. For years, a Muslim militia called *Janjaweed* and supported by Sudan's Muslim government had been waging war and killing hundreds of thousands of tribal Africans. In time, the conflict spread from Sudan to surrounding countries, including Francophone Chad and the Central African Republic. This area became one more front in the worldwide confrontation between militant Islam and the West.

A year after the disappearance of Air France's flight #21, the FBI arrested three suspects in upstate New York. They carried French passports. They were interrogated at great length, but absent any evidence against them, they could not be detained. However, because their visas had expired, they were expelled from the United States, moving first to Quebec and then vanishing from sight. The authorities seemed no closer to solving the crime.

But unbeknownst to the public, the three suspects were trailed. The trail led to the city of Bangui, in the Central African Republic. The CIA identified what it believed to be the secret headquarter of the organization responsible for the destruction of Air France's flight #21.

On the night of September 21, 2035, President Huntington gave the executive order to destroy this target. Two hours later, US guided drones vaporized a square mile of downtown Bangui.

The operation's *post-mortem* was gradual - pieced together by agents, reporters on the ground, diplomats and visitors from many different countries. The two main conclusions were these: (1) the operation had caused about twelve thousand civilian deaths. (2) The forty city blocks which were incinerated had not contained any political or militant organization headquarters. They did contain an underground water treatment plant, and this was the facility which the CIA had erroneously identified as the terrorists' headquarters. The case of Air France's flight #21 was never solved.

5. Foreign Policy and War: The Presidents of the New Progressive Era were disappointingly slow in extricating America from its vast over-reach in the Middle East. This was due both to forces outside their control - for example Iran's continued belligerence - and to their own centrist instincts. While their aim was to sharply reduce the country's presence in Iraq and in Afghanistan, they did not want to do so precipitously, unconditionally and irresponsibly. Thus, when Hilary Clinton took over the presidency from Barack Obama, she inherited Iraq and Afghanistan as well, countries which the US had by no means abandoned.

By 2016, America had changed its strategy in those two countries: It had reduced its troops by 80%, and it no longer carried out military operations. Instead, it settled in for the long haul by reinforcing the American fortress/embassy in Baghdad's Green Zone, whose cost overruns now stood at three and a half billion dollars(!), and building impregnable bases in remote parts of the country such as Kurdistan, and by the Syrian and Iranian borders. Also, the entire small state of Kuwait was reduced, even more than before, to one large US military base. The country also embarked on an enormous economic aid plan dubbed the "Middle Eastern Marshall Plan." Iraq and Afghanistan were to receive more than a trillion and a half dollars worth of development funds over the following twelve years.

Since the US was no longer suffering combat casualties, a docile public accepted the "Middle Eastern Marshall Plan," despite its staggering cost. This support was buttressed by

Iran's continued provocations. There was absolutely no *quid pro quo*. No benefit accrued to the American people, no oil, no additional security from terrorism.

As to Afghanistan, America's NATO allies had long departed from that country and left the US alone to continue to wage a lonely and futile battle against a Taliban which had by now re-occupied most of the country outside of Kabul.

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And then, all hell broke loose: In late 2016, on the verge of Hilary Clinton's inauguration, Iran finally detonated its first nuclear bomb. US-Iranian relations were bad as it was, with the Ayatollahs' intransigence only growing by the year. Now, President Clinton began her term facing a full-fledged crisis. This was a true baptism of fire, reminiscent of John Kennedy's experience with the Bay of Pigs fiasco shortly after he assumed the presidency.

Soon after Iran tested its first nuclear bomb, Israel began overflights over Persian military facilities, in all likelihood preparing to strike them. After Iran shot down several Israeli planes, Prime Minister Netanyahu ordered massive conventional bombing to commence.

Meanwhile, the U.S. 5th fleet had been patrolling the Persian Gulf for years. On January 17, 2017, the Pentagon announced that Iran had fired several *Fajr-5* rockets on the fleet's flagship, the aircraft carrier George H.W. Bush. The timing of this attack was not coincidental. The Washington establishment and the entire country were gearing up for the presidential inauguration. In just three days, Obama would hand over the baton to Clinton. Clearly, someone was out to exploit the temporary leadership vacuum inherent in all such transitions.

The Navy promptly requested presidential authorization to carry out air raids against Teheran. But which President should approve the request? Prior to the 20th of January, Obama, thereafter Clinton.

After some delay and confusion, the new President approved the retaliatory raid requested by the Pentagon. This was the first presidential action by the first female president!

In effect, the United States had joined Israel's bombing campaign. American and Israeli losses were modest, and so was "collateral" damage to Iran, as the bombings targeted military facilities only. At the same time, rockets began to rain on Israel, not only from Iran but also from Lebanon, from Syria and from Gaza.

The Middle East's two nuclear powers were now at war. The world understood that nuclear conflagration was at hand. Activities at the United Nations rose to a feverish level - with dozens of countries proposing separate and different resolutions demanding an immediate cease-fire, condemning Israel and the United States, and threatening various forms of retaliation against the Zionists. One of the resolutions demanding an immediate cease-fire was adopted unanimously within a week and, lo and behold, it was in fact followed by a near-total cessation of hostilities, although some rockets continued to fall upon Israel sporadically, as these came from rogue groups not under the control of organized government.

The United Nations now showed a resolve and a collective will which it had only displayed towards Israel in the past. A nearly unanimous world was now determined to put an end not just to the hostilities between Iran and the Israel-U.S. coalition, but also to *all* other military activity in the Middle East. The forces arrayed against Israel and America included the European Union, China, Russia, every Muslim country on earth of course, and even Japan, India and others whose sympathies had been more nuanced in the past. Rarely had Israel and the United States been so isolated.

The members of the UN now decided, for the first time, to add teeth to their resolve. That is, they demanded that the US cease military operations in Afghanistan as well. To add weight to this demand, many U.N. members made severe economic threats against Israel and the United States: OPEC and other oil and gas producing countries such as Russia, Venezuela, Norway and the entire Middle East vowed to curtail production and reduce deliveries to the United States. China and the European Union planned to conduct all transactions in Euros and in Renminbis, not in dollars. Countries in possession of strategic mineral reserves such as tungsten and rare earth metals initiated embargoes. Venezuelan hothead Hugo Chavez vowed to send a “people’s brigade” to Afghanistan to assist the Taliban in evicting the Americans.

Because the world had come so close to nuclear war, the United Nations were sufficiently energized, for the first time, to go beyond the talking stage, and to *force* its most powerful member to drastically change its foreign policy. Not since the administration of George W. Bush had America faced such international condemnation and loathing.

However, Hilary Clinton was no George W. Bush. She had no intention of squandering the significant amount of international goodwill built up by her predecessor. She was no more a unilateralist than President Obama. One of her chief campaign pledges had been that she would NOT return to arrogant unilateralism, and that she would maintain America’s renewed standing as a cooperative member of the family of nations.

And then, a CIA leak confirmed what Oliver Stone had been claiming for several weeks: By March 2017, it was clear that the alleged firing of Fajr-5 rockets at the George H.W. Bush had never taken place. That Iranian attack against the 5th fleet which formed the entire *casus belli* justifying the air-strikes against Iran was a Pentagon fabrication!

Once again - as with the alleged Gulf of Tonkin attack which led to the escalation of the Vietnam war, and Saddam Hussein’s alleged weapons of mass destruction used to justify the invasion of Iraq - the American people had been bamboozled into precipitous and ill-advised military action by a subterfuge concocted by the war party.

President Clinton, herself a victim of the conspiracy, was furious. She fired the secretary of defense and all the joint chiefs of staff. Their successors’ first order of business, in the summer of 2017, was to stop the war in Afghanistan. By the end of that year, the last US troops had left that country, and shortly thereafter the victorious Taliban re-entered Kabul, promising to double world opium production within one year. Thus, the outcome of the 2017 Iranian war was a fiasco for the United States and a great success for Iran. That country was now a firmly established member of the world’s nuclear club and it had managed, with the help of the United Nations, to drive America out of Afghanistan.

President Clinton remained true to her basic instinct, viz. to govern from the center and to always heed both the right and the left. After the Iranian fiasco and the departure from Afghanistan, the right was aghast, while the left celebrated.

In order to redress this imbalance, Clinton now threw a sop to the right: There had been general agreement for many years that the military was overstretched and undermanned. There had been talk of reviving the draft, but this had been a nonstarter. In 2021, the Congress and the President cobbled together a compromise to reactivate the Selective Service System in such a way as to re-introduce the draft of a very small percentage of draft-age men. It was pointed out that the lengthening and doubling or tripling of tours of duty to which the national guard and the reserves had been subjected for many years already was a *de facto* draft, and that the new policy was therefore not a drastic new departure.

Also, it would affect fewer than 5% of the age-specific male population. In order to be drafted, a man had to be unemployed, single and one of at least two brothers. Draftees had to be able to pass the usual physical and mental tests, and no draftee would be required to perform front-line combat duty. Furthermore, pay and benefits were increased generously. Thus, the government was able to reintroduce the draft without causing a storm of protest. This added half a million men to the armed forces. For example, by 2023, the army had doubled its divisions to 25, the highest number since the Vietnam War. The Pentagon had finally come around to the realization that high-tech gadgetry was no substitute for boots on the ground.

Pundits wrote about the Nixon-to-China syndrome: Only liberal presidents such as Barack Obama and Hilary Clinton could have gotten away with strengthening the armed forces and eventually reintroducing a partial draft, just like only arch-anti-Communist Richard Nixon could have opened the door to China in 1972.

Logically, the disastrous bombing campaign waged in support of Israel against Iran in 2017 was another defeat for America. After all, it led to America's departure from Afghanistan, the Taliban's return to power and a vastly strengthened and nuclear Iran, with the US barely holding on to a few fortified zones in Iraq.

However, there was a silver lining. As had happened after the Vietnam War and after the Cold War, America was finally at peace from 2017 onwards, involved in neither a shooting war nor a "police action" anywhere in the world. And just as on those previous occasions, there was a *peace dividend*. The country was now able to devote its resources to rebuilding its infrastructure, strengthening its overstretched military and attending to its other long-neglected needs.

There was now even a peace-time draft. The Roman expression *si vis pacem, para bellum*, seems to have had some application: The country was imposing peace and stability overseas more effectively through the projection of military strength, than it had been able to do by waging war! This blissful situation lasted nearly seventeen years - until the end of the New Progressive Era and of John Alonzo's presidency.

6. The African War: Not that the world went through the next decade and a half without tension and conflict. Not that the US was never involved in thorny international conflict management.

The most conflict-ridden part of the world was Africa. There were three or four wars raging on the Continent at any given time, and there was always the possibility of wider conflagration, including American involvement, if outside powers such as China, the US, the Islamic Republic of Iran, Russia, France and the European Community and others were not careful.

The background of the African War is complex: By the turn of the 21st century, several conflicts had been raging in East and Central Africa, tribe against tribe, state against state, ethnicity against ethnicity and religion against religion.

(1) In 1994, Rwanda (colonized by Belgium in the 19th century and therefore a Francophone country) had experienced the horrendous genocide of the Tutsis by the Hutus - an internal tribal conflict which then ebbed over into French-speaking Congo.

(2) In the horn of Africa, Ethiopia and Somalia were at war, pitting the Christian/Marxist Ethiopian regime against a Muslim Somalia.

(3) Then there was the Sudan genocide, where the Muslim government of a largely Muslim Sudan waged a genocidal war against non-Muslim tribes in the Southwestern part of the country. The Sudanese government's proxies in this effort were the *Janjaweed*, a group of armed and mounted Afro-Arabs. This conflict was ebbing over into Chad and the Central African Republic, thus beginning to pit the English-speaking Sudanese regime against French-speaking Chad and the Central-African Republic.

The first of these conflicts occurred in what had historically been part of the French Africa, the second one was of interest to the US because Somalia was a haven for Muslim terrorists, and the third conflict was a humanitarian problem of concern to the entire world. Additionally, Presidents Obama and Clinton emphasized in their foreign policy America's moral responsibility to help Africa, a continent in dire trouble, a continent which America had neglected in the past.

The French did not handle the 1994 Rwandan genocide well. Far from intervening in a timely manner to prevent it, they facilitated it. This more or less neutralized them, after that. By the time the government in Kigali (Rwanda's capital) had reverted to the Tutsis at the turn of the 21st century, the French had become *persona non grata* in that country. This left a political vacuum.

Because of the growing influence of radical Islam in Somalia, the United States supported Ethiopia's invasion of that country in 2007. As to the Sudan conflict, one of the protagonists there was also a Muslim regime. While there were some French humanitarian efforts in the region (for example by the *medecins sans frontieres*), the Sarkozy government was unable to respond effectively to the threat posed to Chad and to the Central African Republic. And what made things even worse there, was China's growing collaboration with the Sudanese government, prompted by China's oil interests.

Gradually, the United States once again began to see it as its responsibility to intervene in Africa. Why? Because (1) a collaborative international effort was not plausible - the French being relatively powerless, the United Nations being unable to do anything, and other nations (including the rest of Africa) refusing to become involved. (2) At least some of the fighting could

be seen as a form of Muslim *Jihad*. (3) The presidents of the New Progressive Era had a general engagement policy towards Africa.

To be sure, President Hilary Clinton wisely dragged her feet until the very end of her presidency, despite mounting pressure from both the Right and the Left to “do something.” Congress, where the Republicans had re-captured the majority during the midterm elections of 2022, the Pentagon, and the CIA claimed that Africa was becoming the new front in the war on terrorism. At the same time, liberal media pundits and Hollywood actors urged US intervention on humanitarian grounds.

Clinton’s successor, John Alonso, was no more eager to become involved in another military adventure than she had been. However, after continued pressure, he finally compromised and acquiesced to the establishment of two military bases in Africa. One was placed in Somalia in 2025, and another one in Uganda two years later. That country’s location between Sudan and Rwanda gave it a strategic importance: From their base outside of Kampala, US forces were within an hour flight from (1) Rwanda, (2) Somalia and (3) Southern Sudan - in sum from three major African trouble spots. As a *quid pro quo*, Uganda began to assist Ethiopia (supported by the US) in the “pacification” of Somalia, which meant the expulsion of its radical Mullahs and their armed fighters.

However, in geopolitics as in physics, force elicits counter-force: The Sudanese and their *Janjaweed* proxies escalated their attacks, as did the radical Somali Muslims. Sudan benefitted from China’s economic support, to whom it sold the bulk of its oil. As to Somalia, it received increasing amounts of military aid from Iran.

Meanwhile, much of American public opinion once again fell prey to the Manichean notion, fostered by the media and the military-industrial plutocracy, that the emerging confrontation in Africa was black vs. white, good vs. evil, (American) civilization vs. Muslim terrorism. Since some of the protagonists were Afro-Arabs, it was easy to portray the situation in Africa as simply the latest front in the war on terrorism. This was sad and unnecessary. By defining a complex set of problems as just another phase of America’s war against Islamofascism, the country was blundering into another military confrontation.

As the violence escalated in Sudan and in Somalia, the Pentagon and the Republicans put more and more pressure on President Alonso to increase the number of “advisers” at our bases outside of Kampala and Mogadishu. In 2031, nearing the end of his presidency, he finally gave in and authorized the dispatch of one brigade of marines to each of the two bases, ostensibly to serve as advisers to the Ugandan, Ethiopian and other peace keeping troops operating in Somalia and in Darfur.

News stories began to appear about alleged sightings of Al Taliban operatives in Somalia and in Sudan. *Fox News* announced that reliable sources had spotted Al Qaeda’s current leader Abu Ayyub a-Masri in Mogadishu. This was met with healthy scepticism in editorials by such columnists as the *New York Times*’ Paul Krugman and the *Washington Post*’s David Kuzinsky. They reminded the public that (1) there was a history of propaganda fabrications aimed at justifying war, including the fictitious Gulf of Tonkin attack in Vietnam and the weapons of mass destruction charade in Iraq, that (2) Abu Ayyub a-Masri was probably 95 years old, if alive, and that (3) the Somali take-over by Muslim fundamentalists was a Shiite

movement, not an Al Qaeda/Suni action.

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As President Alonso's final term came to an end in 2032, the African situation remained inconclusive. He could at least pride himself on having kept the US out of war.

However, the SAWIT debacle (see Domestic Politics section, above) and the Pretorius Incident (See Crime and Terrorism section, above) had greatly weakened the Democratic President and his party. This led to the election of the first Republican President in nearly thirty years - Samuel Huntington the Third - and a renewed Republican majority in Congress.

Huntington's election as the 47th President of the United States resembled Ronald Reagan's election half a century earlier, in the sense that it was based on a rightward movement in public opinion, on a feeling that America was not fending for itself effectively in a dangerous and hostile world, and on a perception that the moment required strength rather than benevolence, militancy rather than diplomacy, confrontation rather than accommodation. Much of his support consisted of a rejuvenated Tea Party.

The new administration hit the ground running. The first international issue it addressed was the "Mexican" question: For years one of Huntington's pet projects had been the "wall," the 2,000 mile high-tech electronic fence which would hermetically seal the US-Mexican border. Building had commenced in 2024, and it took three years to complete the first hundred miles, due to President Alonso's foot dragging. After 2027, economics and politics caused the project to bog down even more. The Democratic administration was far more eager to improve relations with Mexico instead. Also, the volume of illegal immigration declined, due to the sluggish US economy. Furthermore, the cost overruns to build the wall were staggering.

By the end of Alonso's term in 2032, only sixty miles had been added to the wall, at a cost of another fifteen billion dollars. A project which had cost twenty billion dollars so far just sat there in the desert, partially completed, testimony to American frivolity and profligacy.

During the Recovery Era - the three consecutive two-term Democratic Presidencies - Washington's emphasis had been on integrating the US and Mexican economies, not separating them. The vast border-area Maquiladora which NAFTA had created was strengthened, and it benefitting Mexico immensely. After 2023, the drug war abated. These developments reduced the flow of illegal immigration into the United States. Border crossing became as easy as it had been between Canada and the US for a century, and between European countries since the creation of the European Union. Passport control was abolished. Other forms of identification, such as a driver's license, were sufficient, and control was perfunctory. Crossing over into the US became a cinch for all, including individual travelers, commuters, truck drivers and merchandise - as well as illegals, drug dealers, criminals and terrorists.

At the same time, nativist sentiment against these trends had grown stronger. The situation polarized the population and became ever more volatile. Border vigilantism increased a great deal. Several violent confrontations have already been discussed. These included the 2016 border shoot-out, the 2021 Nogales terrorist attack, the 2028 Rio Grande incident, and the 2032 Pretorius bombing.

But the administration had not sat idly, even before the CIA completed its investigation: Shortly after the downing of Air France #21, the administration began to build up its forces at the two African bases established during by President Alonso in 2025 and 2027.

By the end of 2034, the Pentagon had tripled the size of its garrisons outside of Kampala and Mogadishu, to three brigades each. With over 30,000 men on the ground, American forces were now able to begin modest search and destroy operations in and around the two capital cities.

The build-up was completed the following year, to a total force of 120,000 troops, including the 1st and 3rd infantry divisions, the 10th mountain division, and the 1st and 4th marine divisions.

After the bombing of downtown Bangui on September 21, the US focus shifted to Somalia, because there was reason to believe that the radical Islamists in that country were behind the downing of Air France #21. By November, the US forces and their Ethiopian allies were in firm control of Mogadishu, but not the surrounding countryside. There, the Muslim fundamentalists were building up their strength, supported by Iran. The daily bombing raids on their camps produced mixed results, as the Iranians had perfected several new missile systems: They now possessed the *Shihab-5*, which provided air defense to the point where it shot down a great many allied aircraft and drones. More ominously, they had also developed the *Shihab-6*, an intermediate missile capable of delivering a tactical nuclear device.

On the morning of December 16, one such Iranian Shihab-6 hit the US base outside of Mogadishu. The missile carried a small Davy Crockett-type nuclear bomb that weighed fifty pounds and had an explosive force of one kiloton. It vaporized the base without destroying Mogadishu - forty miles away.

90% percent of the base population was incinerated, including eight thousand American marines and five thousand Somalian civilians. Six thousand American soldiers were saved because they were out on patrol.

America was stunned. It had finally suffered a nuclear attack, even though not in the homeland. On the right, a clamor rose immediately to retaliate in kind, i.e. to go nuclear. Military experts pointed out on *Fox News* that our armed forces were sitting ducks. What was the point, they asked rhetorically, of sending thousands of American boys and girls to be incinerated in Africa? We had just lost eight thousand of them in one fell swoop! Millions of Americans favored a nuclear response. Thousands of Tea Partiers offered to sign up as a volunteer guerrilla force to go fight against Iran.

But millions cautioned against a trigger-happy response. There were massive street demonstrations against “the nuclear option.” A majority of Democratic congressmen were also opposed.

As to the international community, it too, saw things differently. The Europeans and the United Nations urged the US to proceed with caution and not to go off half-cocked like a wild cowboy.

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However, President Huntington did not want to appear to be a paper tiger. On January 20, 2036, exactly one year before the end of his first term, He announced to the nation that he had

authorized the use of tactical nuclear weapons in the African war. He reminded the world that the US was *not* in violation of the Geneva protocol against first-strike, or pre-emptive nuclear attack. Having suffered a nuclear attack, America now clearly had the right to defend itself, so the President argued.

Furthermore, he said, it was important to let the military do its job, and to win the war once and for all, no matter what it takes. He noted that America had a deplorable habit of fighting wars with one hand tied behind its back. The aim of going to war is to *win*, he reminded the nation, but America had forgotten this. There is no substitute for victory, he exclaimed over and over again, and you can't make an omelet without breaking eggs.

The entire US diplomatic corps was deployed to deal with massive worldwide *and* domestic outrage. Furthermore, the administration tried to assuage the critics by noting that it was "merely" using the B61-11 mini-nuke, whose explosive power of 5 kilotons did not even equal that of the Hiroshima bomb. Finally, it argued, the bomb and the air-to-surface delivery system are designed to penetrate the earth and to explode in such a way as to avoid massive radioactive contamination of the surrounding environment and civilian population.

While these arguments raged - inconsequentially - at the United Nations and at other venues, the bombing commenced, first in Somalia and then in Sudan. While the attack caused immense civilian casualties, it did not affect the battlefield significantly. This led the United States to redouble its efforts and to drop dozens of additional volleys of B61-11s onto the two target areas.

The areas of greatest devastation were a three hundred mile territory in the Western Sudan, and the two hundred miles stretching from Southern Somalia's coast on the Indian Ocean to the Ethiopian border. These regions, which had been precariously arid to begin with, now became essentially uninhabitable - to man and beast alike.

The international community was aghast. What's more, the world was now a different place than what it had been a generation earlier. The US no longer enjoyed hegemony. It was now the *second* most powerful nation in the world - after China - both economically and militarily. Despite the fact that for the past few years there had been *two* super-powers in the world, not one, the world had not reverted to a bi-polar Cold War, such as had existed during the Soviet era. Instead, the US and China had enjoyed a collaborative partnership which benefitted both giants economically, and imposed stability upon the world.

However, the African war put great stress on the Sino-American partnership. China still supported the Sudanese government, from whom it bought over half a million barrels of petroleum a day. As to the Europeans, they had remained estranged from the US even during the New Progressive Era, when three consecutive Democratic presidents had made a great effort to ingratiate themselves with the Europeans - to no avail.

With the admission of Russia to the European Union in 2030, the entire continent was pulled into an even more "neutralist" direction than before. The last time that NATO had functioned as an effective international military organization was in Afghanistan during the first decade of the 21st century.. After that, it existed on paper only. Shortly after Russia became a member of the European Union, NATO was formally put out of its misery. The EU parliament

officially withdrew the Continent's membership, leaving Canada, Britain and the United States as the last remaining members of NATO.

Thus, the world was once again unanimously arrayed against the United States. The Security Council (which had been expanded to include Brazil, Japan and India), voted 7 to 1 to condemn the American nuclear offensive in Africa, and to demand its immediate cessation - America being the sole dissenting vote. Even India supported the resolution, although it had been heavily pressured by the State Department to at least abstain.

But the United Nations was no mere debating society. Far more significant was the Security Council's next action: It began deliberations about a French proposal to impose severe economic sanctions on the United States. These included a total oil embargo.

One of the reasons that President Huntington had been able to pursue a very aggressive foreign policy, was that the Republicans and Tea-partiers controlled Congress. Now, the House passed a resolution threatening to expel the United Nations from the country in retaliation for the proposed economic embargo.

Tea-party congressman *Luc Davidovitch*, who often spoke of the clash of civilizations and reminded his audiences that America was the last bulwark against the world's spreading barbarism, put it this way: "There is a fine 39-story building which overlooks the East River in New York City. In its 80-year existence, it has served no useful purpose. Now is the time to put it to good use. I propose that the State Department hand over the building to the New York City Housing Authority, which will convert it to low and middle-income residential apartments. It should accommodate several hundred households comfortably."

The General Assembly of the United Nations (which now counted 251 member states) responded predictably: It voted - unanimously - to recommend that the Security Council move the body's headquarters to Geneva.

It appeared that hotheads were prevailing on both sides: The Huntington administration, backed by a Republican majority in congress, refused to give in to international pressure, and a majority of the UN members relished the prospect of an all-out confrontation with Satan America.

At the same time, military developments on the ground were ominous. In June, China and India began naval patrols in the Indian Ocean along the Somalian coast. A few months later, the European Union carried out the military steps which it had threatened to take for a year. The French sent three brigades to their former colonies - Chad and the Central African Republic - and to Congo. Russia, the EU's newest member, sent four squadrons of its advanced *Sukhoi S-74* fighters and six *Tupolev 280* ("*Blackjack Two*") Strategic bombers to those countries. With most of the world's significant military powers now present in the area, the danger of a worldwide conflagration was acute.

What happened next was a welcome *deja-vu*, namely the rise of a worldwide peace movement not seen since the 1960s. Massive demonstrations were held in many cities around the world, most notably in New York, Washington, Shanghai and Paris. In New York, two million

marchers were joined by hundreds of United Nations diplomats. In Washington, the authorities had warned that Lafayette Square and Pennsylvania Avenue would be off limits to the demonstrators. Nevertheless, the protest veered North from the National Mall and flooded the forbidden areas. Fearing threat to the White House, the National Guard was called, and the protest turned violent. Two dozen lives were lost.

2036 was a general election year, of course. The American people opted massively for peace. President Huntington did not have a chance in hell of being re-elected. One month before the election, he trailed Democratic candidate **Michael Lopez-Garcia Della Fuentes** by 33% to 64%. In addition, America's nuclear adventure in Africa also became the Republican Party's grave. Never before in the country's history did so many members of Congress vacate their seats without seeking re-election. Of the 435 house seats and 33 senate seats which were up for grabs, fewer than half were sought after by incumbents. Clearly, the rats were abandoning the ship. Politicians wanted to distance themselves from the war, the worldwide protest and the domestic violence.

Thus, a totally new breed of politicians swamped Washington in November. In the Senate, Republicans barely managed to hold on to one third of the seats. In the House, the GOP became nearly extinct. Furthermore, Republicans were not only replaced by a new Democratic majority, but also by nearly one hundred members of the new **Green Peace Party**.

The new Congress wasted no time in confronting the crisis. It immediately passed veto-proof legislation to cut off all further funding for the African war, and it started impeachment proceedings against President Huntington. Of course, the issue was moot, since Huntington was beaten by Lopez-Garcia.

Within two days of his inauguration, the new President ordered the Pentagon to cease all offensive operations in Africa. This accomplished four things: (1) It calmed the streets of America and the world. (2) It put an end, for the time being, to efforts to move the UN headquarters to Geneva. (3) It set in motion America's exit from East-Central Africa. (4) It likewise led the other powers to start de-escalating. Not since the Cuban Missile Crisis in 1963 and the 2017 Middle East War had the world come so close to nuclear Armageddon. Once again, America's creaky old democracy had worked, people had voted in the streets and in the voting booths, and disaster had been averted.

For the second time in a generation, the United States had been forced to back down by a unified international community. In the end, this was of course best for America. However, the immediate result was a further decline in the country's international prestige and clout.

The domestic political landscape was unrecognizable. Samuel Huntington's legacy was in shambles, as was the Tea Party. It had caused far greater damage to America's interests than even George W. Bush's policies had, a generation earlier. Huntington avoided impeachment. The Lopez-Garcia administration and the new Congress also put an end to Huntington's other projects, prime among them the Wall. This was a no-brainer, of course. Mexican immigrants and their descendants now comprised one third of the population of the United States. The

Mexican and US economies were practically integrated, forming a union similar to that of Europe. Mexico's per capita income was nearly half that of the United States. The distinction between legal and illegal immigrant had become academic. Millions of people enjoyed dual US and Mexican citizenship. It was only a matter of time before the two countries would merge into one single citizenship, following in the footsteps of the European Community. By putting the wall project out of its misery at this point, Congress was only ratifying what the vast majority of the country wanted.

The 2036 presidential campaign was a watershed, and the beginning of an entirely new political configuration in North America:

For the first time in 180 years, the top two contenders for the Presidency were not a Democrat and a Republican. The Republican Party had been so weakened by President Huntington's mismanagement that it was moribund. Its candidate came in a distant third, after Green peace candidate Matt Gonzalez. Another historical first was the fact that both top presidential candidates were Hispanic. In 2038, President Lopez-Garcia pulled out the last American troops from Kampala.

7. Technology: The continued growth of the Internet, of social networking and of electronic technology had both positive and negative consequences:

The period under discussion (2016-2052) was an era of transition: During the first part of the period, America was a two-tiered society, consisting of two classes, distinct from each other not socio-economically, but *culturally* and *generationally*. The electronic revolution had long been welcomed by the young and resisted by the old. By the 2020s, the "old" were largely the baby boomers, who ranged in age from their early sixties to their eighties. Later, as the baby boomers were dying off, the electronic generation took over unchallenged command of the culture.

By mid-century, the printed media were practically extinct. There were a handful of printed daily newspapers, catering to an exclusive clientele of scholars in a few archival centers, universities and libraries. The number of books published annually remained high until the 2030s, i.e. as long as there were still millions of baby boomers alive. Of course, most book stores went out of business, as books were published, bought and read mostly electronically.

By mid-century books had followed in the footsteps of newspapers and magazines, i.e. they had largely vanished. The printed media became a form of "high culture," comparable to the theater. In other words, just as the rise of Hollywood did not fully kill the theater, and the rise of television did not kill movie theaters, but allowed those older forms of delivery to survive in a more limited, marginal and selective fashion, so the electronic media relegated the printed media to a smaller, more highbrow realm, without fully wiping it out.

Still, the result was deplorable: Literacy, numeracy, linguistic, historical, political, civic and geographical knowledge declined steeply, particularly among the younger generation. At the same time, that generation displayed dazzling computer and other electronic skills. However, it was not clear that these skills were put to the best possible uses. Dozens of millions

of young people were deeply involved with ipods, iTunes, iPads, the ubiquitous iPhones, blackberries, video chatting, text messaging, TiVo, digital games, movies and music of all sorts, interactive websites, blogs, social networks, and search engines such as Google, Yahoo and Wikipedia - which had launched its own search engine in 2016 and later overtook Google as the number one source of information. However, the continued growth of Internet resources did not contribute to an improvement in education. *Access* to facts alone did not guarantee *mastery* over and *comprehension* of facts. Instead, it led to cacophony and confusion, to a decline of systematic and disciplined knowledge, and to a growing inability to express oneself clearly, intelligibly or eloquently. The continued decline in SAT and ACT scores was only one measure of this.

On the other hand, society's increasing reliance on electronic technology was a boon to the environment. The use of paper declined, as did commuting to work. Tele-commuting and teleconferencing increased. More people worked from their home office. More shopping was done on line.

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Because of the Great World Depression which began in 2007, even electronic giants such as Apple and Microsoft had found it necessary to cooperate rather than to engage in head-to-head competition. The two companies had developed an understanding and respect for each other's distinct spheres of interest. For example, in the area of software, Apple focused on graphics while Microsoft specialized in information systems. This enabled both companies to more or less monopolize their areas of expertise without duplication.

Then, in 2039, Microsoft and Apple finally merged, creating the largest and most influential monopoly on earth. The two electronic giants had already been collaborating for years on all fronts, including hardware, software, search engines, accessories and multi-purpose pods, living in "Common Law" marriage so to speak. In 2039, they finally decided to tie the knot, i.e. to merge. Apple's CEO was the late Steve Jobs' 61-year old daughter Lisa, and Microsoft's CEO was now Bill Gates' son Rory John, who was only 40, but to whom Bill had passed on the baton, although the grand old man still participated in board meetings and exerted a signal influence on company policy.

The new colossus had also hoped to snatch up Google for \$200 billion, thereby acquiring a virtual monopoly on search engines. However, it failed to do this. As an alternative, it acquired Wikipedia, and built up its capability from encyclopedia to search engine.

In 2036, Sony began to develop *Virtulife*. (see Chapter Two). During the following three decades, Japanese scientists developed this new technology to a level which earlier generations would have called miraculous. *Virtulife* was patented and exported to the rest of the world at great profit to Japan.

In essence, the technology was making long-distance communication ever more into a quasi-teleportation experience - at least for those who could afford the top-of-the-line hardware, which was extremely expensive. At its best, *Virtulife* appeared to almost "transport you there," lock stock and barrel. It seemed that Star Trek had arrived, and that you could, indeed, be

“beamed up.” Due to the expense, *Virtulife*’s most frequent application was teleconferencing. Its use was mostly limited to the corporate sector, plus university research centers and governments.

On the other hand, the Microsoft-Apple merger’s effects were felt primarily by consumers. As mid-century approached, the overwhelming majority of consumer purchases were online. Amazon.com had been joined by several other highly successful companies specializing in online commerce. The largest of the new e-commerce companies was *Eastwestcorp*, created by a joint Chinese-American team. Unlike Amazon, its focus was on people’s daily necessities, such as household products, food and groceries.

By 2050, the US Post Office’s role was practically limited to third-class mail. Commercial, medical and other first-class deliveries were handled by *UPEx* - the company resulting from the merger of FedEx and UPS. Nearly all communication was electronic. The occasional personal letter or postcard could only be delivered by private courier.

The greatest growth was in the number of companies which provided the home deliveries of the goods purchased through *Eastwestcorp* - everyday necessities ranging from groceries to cleaning products and from over-the-counter drugs to gardening tools.

The number of supermarkets declined greatly. As to shopping malls, the trend was for fewer but larger malls. Every major city had these. Becoming increasingly recreation and leisure centers, rather than merely retail outlets, shopping malls were better able to survive the electronic onslaught than supermarkets, warehouse stores, and stores in general. In order to continue to attract customers, shopping malls were adding amusement parks, swimming pools, skating rinks, multiplex cinemas, golf courses, water parks, zoos, childcare facilities and hotels to their grounds, following in the footsteps of Minneapolis’ *Mall of America*, the prototype. Americans now spent entire vacations at such malls, often as a substitute for foreign travel, which the devalued dollar made prohibitive.

Between 2016 and 2052, the percentage of Americans working in manufacture declined from 16% to 4%. This was not only because almost all of the country’s industrial jobs had been outsourced to Asia and to Latin America, but also because the small amount of industry that remained in America was highly robotized. Robots made an increasing contribution to research, medicine and the military. Thus, American industrial productivity increased a great deal, while industrial jobs practically vanished.

By mid-century, the vast majority of Americans worked in the tertiary service sector, and close to a third of the labor force was able to avoid commuting to work. This was good, since Americans paid \$400 for every barrel of imported petrol - \$20 per gallon at the pump. Of course, half of all cars were hybrids or fully electric. Therefore, the average car’s mileage was 135 miles per gallon.

Personal office calls, either by telephone or in person, became very rare. Government agencies, businesses, the offices of physicians, lawyers and dentists still publicized their

telephone numbers and their addresses. However, making a business call and reaching a person became nearly impossible. The public only had access to automated answering systems and overseas technical support personnel. For institutions providing basic public services to the masses, such as immigration, motor vehicles, courts and hospitals, an on-site visit was still inevitable, often necessitating waits which lasted several days. The multitudes learned to cope with this by bringing sleeping bags, tents and even cooking equipment for overnight use while waiting in line on the cities' sidewalks in front of such government services as the DMV and the INS.

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On a political level, the Internet's continued worldwide dominance led to international recriminations and one more source of anti-Americanism. Because of the dominance of English in the Internet's classificatory systems, domains and technology, non-English speaking countries complained of Anglo-Saxon cultural imperialism. There were two parallel movements afoot aimed at dislodging the English monopoly. On the one hand, there was a push for internal reform of *ICANN* - the Internet Corporation for Assigned Names and Numbers. The idea here was to enable a more internationally diverse and flexible assignment of addresses, domains, URLs and classifications, and to facilitate the use of non-Latin script such as Cyrillic, Chinese and Arabic.

On the other hand, there was also the more radical proposal to create an alternative, non-American Internet. This charge was led by China, Russia and France. However, there was little chance that a second worldwide electronic communication system would emerge, at least within the century. The practical obstacles to the creation of a second system, competing with the Internet, were mind-boggling. And the Microsoft-Apple merger made that even more so.

As to the Internet's cultural consequences, the last section of this chapter will deal with some of these.

8. Population and Public Health: During the first half of the 21st century, America's ethnic composition progressed in the same direction as before. That is, the Latin component grew far more rapidly than all other elements, both as a result of that group's high birthrate, and due to the continued influx of immigrants. In 2016, there were fifty five million Hispanics in the United States, of whom twenty million were here illegally. Latinos outnumbered blacks by ten million, making up 17% of the country's population. 36% of them were illegals. In states such as California, their proportion surpassed 40%, and they replaced non-Hispanic whites as the largest plurality.

By 2038, America's population was 410 million. Hispanics comprised an estimated one third of this number, blacks an estimated 14%, and Asian-Americans an estimated 9%. Americans of European origin still made up a plurality, but no longer a majority.

I used the word "estimated," because increasing millions now defined themselves as

“mixed”, whenever they filled out government forms, census questionnaires, or applications for a job, for school or for financial aid. Ethnic distinctions were becoming moot in many cases. At least one tenth of the population identified itself as “mixed.” This caused many people to be double-counted, and racial tabulations added up to more than 100%. As race’s significance declined, America’s racial make-up was becoming as difficult to quantify as those of Brazil and Mexico had been for two centuries.

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Another status which became more and more irrelevant, was whether one was a legal or an illegal immigrant - at least if coming from South of the border. As the economies and social structures of the United States, Mexico (and Canada) became more and more integrated, it mattered less and less whether someone was born North or South of the Rio Grande.

Since the end of the 20th century, American immigration policy had swung from one extreme to the other, depending on which political party was in control of the government, and on the public’s mood. During the New Progressive Era, the border situation and the relationship with Mexico had been stormy, despite the successive administrations’ best intentions. Border violence had polarized the American public and exacerbated the relationship between the two governments.

After 2024, President Alonso was able to pursue a more liberal approach for a while. For example, further extension of the partially-completed border wall was suspended.

However, once again trouble flared up, and this was followed by the election of conservative President Huntington and a Republican congressional majority, in 2032. Once again, the government tried to reverse course. By then, 3 million people moved across our Southern border every year, mostly uncontrolled. Desperately, construction of the Wall was resumed.

But Huntington’s retrograde foreign policies were the last gasp of American nativism. His presidency’s dismal failure on all levels (see sections 4 and 5 of this chapter) permanently discredited the Republican Party and its immigration policies. From the 2036 election of President Lopez-Garcia onwards, all hostilities between Mexico and the US were left behind. The INS adopted a policy of benign neglect towards illegal immigration and the government cracked down on private border vigilantism. Not only was construction of the Wall permanently halted, but it was decided to dismantle it altogether.

This was the death of immigration control. President Lopez-Garcia and the new Green Peace-Democrat congressional majority made the final about-face. Just as Congress had realized in 1933 that Prohibition was a failure and that the 18th Amendment had to be repealed, so now the legislative body realized that the Wall was a failed experiment and a monumental waste of money. In 2038, it therefore proposed the 28th Amendment, which stated that

“(Section 1) construction of the fence between the United States and Mexico will cease. Neither the United States Congress nor the States shall appropriate additional funds to resume construction of the fence and (Section 2) the right of persons born in Mexico, to

travel to or to take up residency in the United States shall not be denied or abridged by the United States or by any State.”

Pending ratification by the required number of states, Congress also introduced a new legal status - that of **permanent visitor**. This status became available to any North-American visitor to the United States who wished to remain in the country indefinitely. Any citizen of Mexico and Canada without a criminal record was eligible. Permanent visitors carried a blue card, they received a Social Security Number, and they acquired all the rights and obligations of US citizens, including the right to vote and the duty to register with the Selective Service System. In effect, there was no difference between them and US-born citizens.

Furthermore, the US and Mexican governments signed a treaty which opened the border between them in both directions. The only remaining requirement for anyone entering the US from Mexico was that he or she register at the point of entry.

A vocal minority of Americans was appalled by these developments. Republicans, conservatives and nativists predicted that the flood of Hispanic immigration would become a Tsunami and complete the Mexicanization of the country. And this prognosis was also agreed upon by those who were *not* bothered by such a prospect.

However, against all expectations, the flow of immigrants from South of the border actually declined during the 2040s. Why? Because of the vast improvement in the Mexican economy and standard of living, something which neither the INS nor academic demographers had factored into their population forecasts.

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Auguste Comte’s adage that “demography is destiny” was confirmed. The changing composition of the US population had major political consequences. An organization named **Reunification** grew ever stronger. Its agenda was nothing less than the “return” of most of the Southwestern United States to Mexican jurisdiction. However, this still turned off a majority of Americans, including most Hispanics. Instead, two less radical but equally far-reaching policies were implemented during the 2040s:

1) Ratification of the 28th Amendment in 2041 removed the last obstacles to the total economic unification of North America. In 2043, Canada, Mexico and the United States signed the **Treaty of San Antonio**. The Treaty was signed with great fanfare by the three Presidents at the *Alamo*. The location was pregnant with symbolism, signifying that two centuries of hostilities were now at an end.

Under the treaty, the three countries’ economies were to be fully integrated into the **North American Union**. The new entity was modeled after the half-century old European Union. For the time being, the three member countries maintained separate constitutions, separate criminal justice systems, separate armed forces and separate electoral processes. However, within ten years, all six hundred and fifty million North Americans were to be granted dual citizenship - that of their constituent country and that of the NAU. When overseas, their legal

status would be that of North-American citizens.

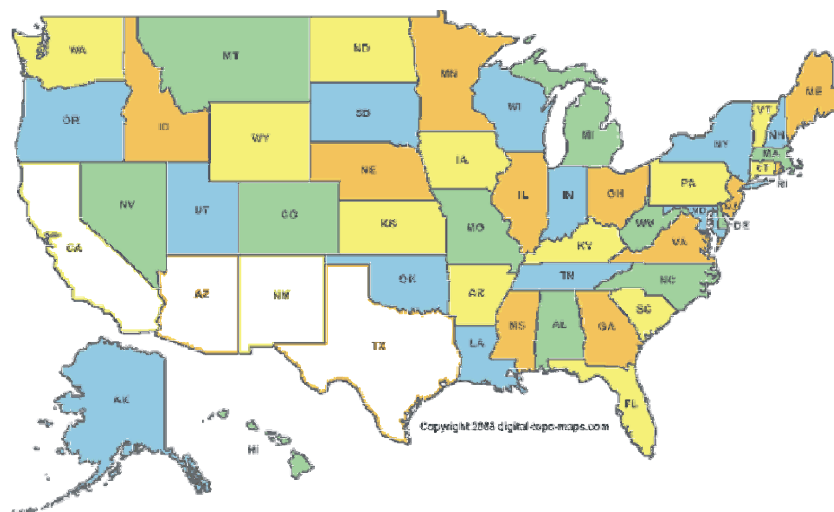
The intent was that in time, economic unification would lead to political integration as well, and the gradual withering away of individual national identities - again following the model of the European Union. Plans were readied for a North American parliament, a North American Constitution, North American elections and a North American military, all within twenty years.

Meanwhile, the North American Union became the second most powerful economic block in the world. The size of its 650 million citizens' collective economy was 70% that of the European Union's GNP and slightly larger than China's.

2) America's huge demographic transition also necessitated change on the cultural-linguistic front. For decades, the country had adjusted to the influx of Hispanics by becoming increasingly bilingual - in law and in practice. But as mid-century approached, this was no longer sufficient. By now, vast segments of the United States were no longer bilingual. There, upwards from 90% of the population's primary language was Spanish. In the wide Southwestern swath that reaches from California to Arkansas, hardly anyone used English any more to conduct business, education and social life. Many school districts switched to Spanish as the primary instructional language, with English as a second language option. The situation resembled Canada. Different *regions* used different languages.

One of President Lopez-Garcia's last far-reaching reforms was the formalization of America's new linguistic reality. The administration and Congress divided the country into two linguistic regions, as Canada had done three quarters of a century earlier. Henceforth, just as French was *by law* Quebec's primary language and English the primary language for the rest of Canada, so now Spanish became *de iure* the primary language in a vast area which comprised most of California, Arizona, New Mexico, Texas, and parts of Nevada, Utah and Colorado.

Spanish America



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Southwestern demographic trends were also profoundly affected by the ever-worsening water shortage. The global impact of the greenhouse effect will be discussed in the following section. Here, I mention one region which was deeply affected by global warming, namely the Southwest.

Despite a drought which had become chronic, the population of the Western and Southwestern states continued to grow more rapidly than that of the nation through the first third of the century. In 2027, Las Vegas' population passed the 3 million mark, that of Phoenix 4.5 million. By 2039, the Las Vegas metropolitan population exceeded 6 million - the fourth largest city in the country.

The irrationality of America's patterns of urbanization was highlighted by the fact that, on the other hand, New Orleans' population dipped under 100,000. Demographers and environmentalists warned that the day of reckoning was not far off. The Southwest's vastly overtaxed water supply was nearing exhaustion, a situation aggravated by global warming, and yet millions of Americans persisted in relocating precisely in that precarious environment, instead of rebuilding viable communities such as New Orleans.

The unsustainability of Las Vegas' reckless growth was already apparent in 2020, when Lake Powell had to be pumped dry in order to keep Lake Mead and Hoover Dam functioning. However, it was only a brief matter of time before Lake Mead, too, would fully silt up. By the end of the 2030s decade, that Lake was shrinking rapidly. The authorities' first priority was to maintain the electric output of Hoover Dam, Davis Dam and Parker Dam, upon which dozens of millions of Nevadans, Arizonans, Southern Californians and Northern Mexicans depended. Glen

Canyon Dam had already been lost when Lake Powell ceased to exist.

Las Vegas' population peaked in 2040. After that, it began to decline, and soon there was an exodus under way. By 2052, the city's population had been reduced by 50%, down to 3 million, with further decline expected.

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America's public health remained largely unchanged. The country's health care system had finally been socialized in 2031 - Although this was finalized during John Alonso's presidency, the groundwork had been laid by his two predecessors - Barack Obama and Hillary Clinton. Universal health care for all Americans was President Clinton's greatest legacy. While President Huntington attempted to privatize medical insurance again in 2034, he got no further than when President Bush tried to privatize Social Security - nowhere. Conservative alarmists, drug manufacturers and the AMA had warned that "socialized medicine" would harm national health. Liberals and proponents of the reform, on the other hand, predicted the opposite. So, which of these contrary prognoses was correct?

What happened, in fact, is that the nation's health did neither better nor worse after 2031 - at least as measured by life expectancy. Average life expectancy had reached 81 years by 2028, and that is where it stayed for a long time after that. Opponents of the new socialized system jumped on the opportunity to blame it for the lack of further improvement. What they failed to understand is that the enormous inflow of immigrants from South of the border and from other Third World countries brought new public health challenges.

On the positive side, the battle against obesity was gaining ground. The campaign was reminiscent of the anti-smoking crusade half a century earlier. Thanks to eloquent spokesmen such as author Michael Pollan, Americans' dietary habits were improving. The consumption of meat and processed foods was declining, while that of vegetables and fruits was growing. Vegetarianism became more popular. It also helped that meat was becoming extremely expensive. Furthermore, Americans ate less. Average daily caloric intake declined from over 3000 to 2750.

As had been the case with the anti-smoking campaign earlier, the weapons employed to fight obesity included law suits and the criminalization of certain corporate practices. McDonald, Burger King and other fast food chains were summoned in court to answer many charges. They became the recipients of hundreds of billions of dollars of penalties, some owed to state governments, some to consumers in class action suits or individual suits. The American Psychiatric Association introduced new diseases in its manual - the Diagnostic Statistical Manual: (1) *edophilia nervosa*, the disease of pathological eating (distinct from other eating disorders such as bulimia and anorexia) (2) *Carnophilia hyperorexia*, an obsessive compulsive addiction to meat eating.

Such diagnostic labels were very helpful in convicting fast food chain executives of conspiring against the consumer. The surgeon-general argued, and psychiatric experts testified in criminal court that McDonald had conspired to create meat addiction, by frying its french

fries in meat-flavored oil. That practice was outlawed, of course. Through the use of helpful litigation such as this, great progress was achieved in reducing our national obesity epidemic. The fast food chains adapted well, by marketing a new variety of vegiburgers, vegisandwiches, vegetacos and vegistakes.

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9. Culture, Education and Civilization: The supremacy of electronic technology in all fields of communication has already been touched upon. One of the consequences was the death of the printed newspaper industry. Subscriptions and daily home deliveries became a thing of the past. Newsstands and airport shops still sold copies of *USA Today*, the *Wall Street Journal* and the *New York Times*, but that was about it.

Electronic technology affected both *what* and *how* people consumed culture: That is, those people who still read books did so mostly via the use of Kindles, iPads and other such tools. However, the overall *amount* of reading (and writing) , period, declined a great deal. As the Social Media and texting took over, people no longer bothered to write and to read at any meaningful length. Insofar as people still read books (by and large electronically) these were self-help or technical. The novel became a rarity, a niche reserved for a small class of people. As explained in section #7, above, literature was transformed from mass culture to “high” culture, just like theater had been transformed in the 20th century, as a result of the rise of movies and television.

The effects of the Internet’s nearly absolute dominance were mixed. One of the most negative consequences was the public’s staggering *news illiteracy*. Most people’s knowledge of current events was now limited to what they quickly read on their browser’s home page when they logged on. This was tantamount to reading no more than the daily headlines.

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Public education underwent a variety of reforms. The most important change was the introduction of a bifurcated secondary school system, modeled after Germany: By the 2020s, a national consensus began to emerge about the problem with American education, and how to fix it. High schools were malfunctioning in several ways. Graduation rates were declining, even as the quality and the rigor of the curriculum were being watered down. Reforms such as President Bush’s *No Child Left behind* had been utter failures. The mantra of the education lobby had always been that the problem was underfunding. But this was a hollow complaint, as the data showed very little correlation between per capita spending on education and student achievement.

It gradually dawned on America that college was perhaps not the be-all and end-all for everyone. Perhaps not everyone should be encouraged to pursue a university-preparatory education. As so often, California was the first state to introduce a radical innovation, namely a two-track secondary school system. The new law was called the *Educational Choice Reform Act* (ECRA). In essence, the State began to offer students, upon completion of middle school, a

choice between (1) a four-year college-preparatory track, or (2) a two-year terminal vocational degree. In 2037, California lowered the age for mandatory school attendance to 16 years.

Between 2037 and 2052, a majority of states followed California's example, with various minor variations. As a result, the percentage of Americans earning four-year college degrees declined from a peak of nearly 43% in 2035 to under 30% twenty five years later.

The consequences of the great vocational reform were mixed: At the secondary school level, a two-tiered system emerged, with many four-year prep schools providing quality liberal arts instruction, and two-year vocational schools barely succeeding in teaching the three Rs, and focused on I.T. and on other industrial training. At the end of two years in vocational school, students received a Diploma in *Mechanical Mastery of Industrial Skills - or DMMIS*. Soon this diploma became known as "Dummy." This, in turn, led to vehement accusations of elitism and counter-accusations of politically correct hysteria.

As to higher education, it benefitted from the reform: The quality of university students improved as their quantity declined. At the same time, the higher education lobby succeeded in preventing cutbacks of public funds to universities, which led to an enormous increase in per capita spending. Prior to the vocational reform laws, America spent on average \$21,000 to educate one college student for one year. By 2043, the figure had risen to \$29,500, adjusted for inflation.

Education reform exacerbated the gender imbalance in higher education. In the beginning of the 21st century, women had already outnumbered men in college by 55% to 45%. After passage of ECRA-type legislation, men flocked massively to two-year DMMIS programs, leaving it almost entirely to women to pursue a college degree. By 2051, 87% of the country's college students were women!

There were two causes for this unhealthy imbalance: (1) Feminism: The women's movement objective of full equality for women was finally reached, but then it *over*-reached - as many revolutions tend to do.

(2) The second reason why college became a nearly exclusively female preserve was *human nature*: Males are not as *calm* as females. They are handicapped by testosterone. They are rowdy, immature, aggressive, destructive. Their attention span is short. Boys make up 85% of patients diagnosed with Attention Deficit Hyperactivity Disorder. They commit nearly 80% of all juvenile crime. Boys have *always* lacked the temperament for scholarship, reflection, intellectual pursuits, studying, reading a book. The main reason that men have produced most science, culture and knowledge throughout history was the repression of women through brute force - of which men have more. By the 20th century, educational opportunities were gradually equalized. As females advanced, males continued to achieve, because the socialization process channeled their energy properly.

However, by the beginning of the 3rd millennium, that process was breaking down. Gradually, boys' natural inability to focus and their natural disorderliness were being permitted to prevail. While permissiveness did not go so far as to tolerate crime, it did permeate parenting and schooling. All earlier civilizations had understood that boys lack the temperament to go to

school, and they all forced males to do what needed to be done. This is called socialization. But now, society was giving up. It was permitting human nature to flourish. It was letting “boys be boys.” And since boys preferred not to go to school, who was society to say that this was a mistake?

Of course, the income disparity between college graduates and DMMIS recipients was enormous. And thus, by 2049, female per capita income finally overtook male income.

On the other hand, the spread of ignorance was not limited to males. The areas in which more Americans became more ignorant than ever were general knowledge of the world, of places, of history, of foreign languages (with the exception of Spanish), world civilization, literacy and numeracy. To be sure, many DMMIS recipients developed technical skills and knowledge of electronics which were adequate to the challenge at hand, namely to enter the US labor force and to compete with low-paying workers overseas.

One further consequence of the great educational reform was the total uncoupling of athletics from academia. Professional athletes were no longer largely recruited from the ranks of college athletes. Among the three major national sports, baseball had always relied the least on college recruits. As to basketball, in the early 21st century the NBA still drafted most of its players from the colleges, but it was gradually moving away from this, as it began to draft an increasing number of high school graduates and foreign players. With the passage of ECRA-type legislation by most states, even the NFL began to move in this direction. By mid-century, most professional athletes in America no longer came from universities, and the NCAA played a much smaller role in university life.

Finally, the reforms yielded an interesting paradox: On the one hand, as we saw, American educational reform meant that the country was starting to emulate Germany and other countries where there had not been the same kind of pressure for everyone to go to college. At the same time, most of Europe and much of Asia were moving precisely in the opposite direction: In countries ranging from France to Japan and from the Netherlands to China, the trend was to make higher education free and universally available to all secondary school graduates.

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As to the family - it, too, underwent radical change. In 1936, the British Anthropologist John Langdon-Davies had predicted that “by 1975 sexual feelings and marriage (would) have nothing to do with each other.” (*A Short History of the Future*). That author’s only error was his *time projection*. By 2035, his prophecy had come to pass. The marriage rate had declined so much that only one household in five consisted of a married couple raising at least one child. 80% of the population lived either alone, as an unwed couple, or in some other alternative fashion. Less than two generations earlier, nearly half of households had consisted of married parents. Elsewhere in the industrialized world - in Europe, Canada, Japan and Australia - marriage was even closer to extinction.

10. Other Major Events: Two additional momentous events must be mentioned in this chapter: (1) a catastrophic West coast earthquake, and (2) the beginning of the breakdown of America's two-party system.

(1) On June 12, 2039, California was hit by its most devastating earthquake *ever*. The earthquake registered 6.9 on the Richter scale. While this magnitude was not extraordinary (the 1906 San Francisco earthquake was 8.0), several factors conspired to make this the greatest disaster in the history of the state:

The epicenter was downtown Sacramento, i.e. the center of a metropolitan region of three million people, and the State capital. For years Sacramento had been known to be more vulnerable to catastrophic flooding than any other city in the country. Its system of levies was as weak and antiquated as that of New Orleans before the Katrina hurricane. Yet twenty five miles upstream from the city center was Folsom Dam, holding back 15 mile-long Folsom Lake. Furthermore, Sacramento is located in the foothills of the Sierra Nevada. This area - the Gold Country - is partially forested, but increasingly parched as a result of urbanization, water overuse and global warming, particularly during the summer. Thus the region was potentially vulnerable both to flooding and to fire.

When the earthquake struck, both calamities occurred, in addition to the deaths and the damage caused by the quake itself: As a direct result of the quake, the Capitol building collapsed, killing two dozen legislators, who happened to be in session at the time, along with dozens of staff. In addition the quake killed over three hundred downtown residents immediately.

However, this was only the prelude to a much larger disaster. Two hours after the first shock, while occasional aftershocks could still be felt, Folsom Dam gave out. For once, the winter had been wet and Folsom Lake was full to the brim. Nearly a million and a half cubic yards of water came tumbling down the American River. First to go was Folsom State Prison, which was washed away within seconds. How many of the eight thousand prisoners drowned and how many escaped will never be known. Then came the downstream communities in rapid succession - Gold River, Rancho Cordova, Rosemont, Arden Park, College Green, River Park and finally downtown Sacramento. 200,000 houses were flooded. Most of the three thousand people who drowned lived upstream in such communities as Gold River, Rancho Cordova and College Green. It took the raging torrent twenty minutes to reach the city proper, just enough time for most downtown residents to evacuate.

Meanwhile, the foothills *east* of Folsom were set ablaze by ruptured gas lines. The fire began as a grass fire, but it moved rapidly uphill into the El Dorado National Forest. By late afternoon, Placerville and other communities were entirely surrounded by California's largest forest fire since the 2007 Tahoe *Angora* Forest fire. Over 3000 homes were torched and 78 people perished in the flames, including twenty five firemen. The combined cost of earthquake, flood and fire was close to a trillion dollars and it threatened the survival of a large number of insurance companies. The federal government had to jump into the fray so as to avoid the collapse of the insurance industry. FEMA's major role, this time, was financial, i.e. it consisted

largely of providing insurance companies the financial support necessary to honor their obligations to the dozens of thousands of home owners who had lost their houses.

Among the myriad lawsuits filed in the wake of the Sacramento earthquake was one filed by a coalition of environmental organizations against the federal government, claiming that the earthquake was the result of the government's negligence and its failure to take adequate measures against global warming.

2) Another event of great significance during this period was a fundamental change in the political party system. To be sure, America had a long history of 3rd party candidates at the national level. The Green Party had been active for at least two decades, the Communists had fielded presidential candidates such as Gus Hall and Angela Davis for three quarters of a century. Ralph Nader, George Wallace, Ross Perot, John Anderson, the Peace and Freedom Party and others had long complicated American elections beyond a simple two-party format. However, no 3rd party force or candidate had ever been a *real* threat to the monopoly of power held by the Democratic and Republican parties - until now.

In 2017, a strange and disparate coalition of groups emerged to form the first lasting national alliance to challenge the two major parties. This coalition included the former Green Party, Hispanic groups, foreign-born immigrants, and anti-war activists. It assumed the new name of ***American Green Peace Party (AGP)*** and elected Matt Gonzalez, Ralph Nader's vice-presidential running mate in 2008, as its chairman. Its members were largely left-of-center, but it also enjoyed the support of centrist environmentalists such as former California Governor Arnold Schwarzenegger, as well as millions of foreign-born US citizens who felt disenfranchised. They wondered, for example, why America could not elect a foreign-born head of state. After all, France had just done it when it elected Algerian-born Ahmed Djelma to its presidency in 2016.

It would soon become clear that unlike its predecessors, the AGP was not just another ephemeral 3rd party, or a short-lived platform for independents dissatisfied with both the Democratic and the Republican status quo. As the number of foreign-born Americans grew and as environmental problems loomed ever larger during the following decades, each election saw the growth of the AGP as a new *national* force.

At the same time, the Republican Party was in permanent decline, especially after the end of the disastrous Huntington presidency in 2036. That year, the presidency was recaptured by the Democrats, but what was truly shocking was the fact that the Republican candidate didn't even come in second: He placed 3rd, behind the American Green Peace candidate!

And there were additional parties that were beginning to gather national constituencies. Prime among them was the ***American Democratic Union (ADU)***. This was a left-of-center, social-democratic organization with a constituency that was more working-class than that of the AGP. Whereas the latter's greatest support was among progressive intellectuals and environmentalists, the ADU was more popular among Hispanics, Catholics and blue-collar workers. By mid-century, this party had made such huge strides that it was challenging the Democrats and the AGP as the third major national party (See Chapter Three). Additionally, there were several minor regional parties, a category to which the GOP had now been relegated.

By 2052, The only last bastion of Republican strength was the Deep South. Texas, the Southwest and some of the Rocky Mountain states which had previously been strongly Republican, became social-democratic, as they were now largely Hispanic.

2. 2016-2052. THE WORLD

The most important factor affecting the world economy during this period is that world oil production peaked in 2020 - at 95 million barrels a day - and then began to decline. The consequences were felt in every facet of life, not just in transportation. Inflation - the cost of food, commodities, housing and manufactured goods - was 5% in a good year, 15% when things got bad. It ranged from 15% in Europe to 20% in the United States, 35% in China, and to astronomical hyper rates in mismanaged Third World countries.

It is not that the world was not trying to adapt. Major progress was achieved in transportation and in alternative energy sources, even in America, usually the laggard in these matters. Americans were switching by the millions to small cars, fuel-efficient cars, hybrids, fully electric cars, and scooters. Twice as many people used mass transit in 2038 as in 2016.

Overseas, progress towards weaning oneself from oil addiction was greatest in (Western) Europe. It was worst in China and in the other huge developing economies of the world: In Europe, per capita automobile ownership declined from 1:2 in 2016 to 1:4 twenty five years later. Thanks to its excellent infrastructure, Europe could rely increasingly on cheap, clean, safe and comfortable public transportation. On the other hand, developing giants such as China, India, Indonesia, Brazil and Russia intensified the demand and competition for oil.

As to switching to alternative energy sources, the Europeans were again doing the best job. By 2050, solar, wind and nuclear power were producing 75% of Western Europe's total energy. In the US, progress was slower. Ethanol proved to be a chimera, and it no longer played a major role in the overall energy picture. After protracted environmental litigation, the country finally began - from 2016 onwards - construction on two dozen new nuclear power plants, but these were not even numerous enough to replace the 36 plants which had to be decommissioned, and the new plants only started to come on line at the middle of the century. At that time, the US derived a measly 10% of its electricity from nuclear power plants, far less than France, Japan, China, Russia and several other countries. Meanwhile, Americans felt safer using more coal, of which they had plenty, but which caused massive pollution.

One issue which affected the entire world even-handedly was the skyrocketing cost of air travel. By 2027, a coast-to-coast round-trip ticket cost \$5,000. A round-trip flight to Europe from the East Coast was \$9,000. Predictably, fewer people flew, increasingly leaving air travel largely to business, government, and the upper class.

Finally, to reflect the new political realities, the permanent membership of the United Nations Security Council was augmented to eight, namely the US, the UK, France, Russia, China, as before, plus three new members - India, Brazil and Japan. This happened in 2029.

1. Latin America: We saw in chapter one that after Castro's death in 2013, US-Cuban relations improved a great deal. By the end of the Obama presidency in 2016, the two countries had re-established not merely diplomatic relations, but strong economic ties as well. There began a flow of traffic, commerce, contacts, family reunification and travel between Havana and Miami, bringing more and more influential émigrés back to the island.

However, the final collapse of Cuban Communism did not take place until 2028. That year, a group of wealthy Cuban returnees held secret negotiations with the Cuban Council of State, chaired by the aging Raoul Castro. An agreement was reached to hold free elections in which a variety of parties could participate, in addition to the Communists.

Needless to say, the U.S. government paid a great deal of attention to these developments, exerting enormous pressure to ensure that the elections occur without delay. The outcome was strikingly similar to the end of the Sandinista regime in Nicaragua in 1990: The communists garnered 35% of the votes, the new Liberal Party received 38%, and an assortment of splinter groups shared the rest. This led to the formation of a center-right coalition government, with cabinet positions allocated to the two dominant parties proportionally. The communists were willing to play ball, but the new government's tilt was definitely pro-American.

Many of the media, including the *New York Times* and the *Washington Post*, cried foul, alleging that the elections had been rigged by the US government. Jimmy Carter - now 104 years old - stated that he had proof of this.

However, no conspiracy theory was required to understand the reason for Cuba's peaceful transition to a collaborative arrangement between the old Communist regime and the returnees: The latter brought back with them billions of dollars in investments. The promise of vast sums of money was what tipped the balance during the March negotiations. Castro's successors were facing two alternatives: civil war, or gold-paved streets. Some observers saw their decision to share power with the returnees as a sell-out, but many agreed that it was the right choice.

During the next twenty years, over a million Cuban émigrés returned to Cuba. Most of them were affluent, and they largely took over the reigns of government. Cuba became once again a major tourist destination, offering gambling resorts that rivaled Las Vegas, legalized prostitution and assorted other services. Income disparities once again became vast, but on balance the country benefitted enormously from the transition to a "free market economy."

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Only one other Latin American country moved "America's way" during the New Progressive Era and beyond - Mexico. As we saw in chapter one, US- Mexican relations were stormy until the late 2030s, but they improved permanently after that.

During the 2020s, the Mexican economy continued to struggle, and the drug wars were a plague which no government was able to confront. The left-center PRI (Institutional Revolutionary Party) took back the presidency and the national government from the PAN (National Action Party). Thereafter, it continued to dominate national politics, especially in poor Southern states such as Chiapas.

The greatest threat to the stability of Mexico was its intractable drug problem. Drug lords grew ever more brazen. Some of the border towns near the US were practically under their control. They murdered members of competing gangs, innocent men, women and children, and government official indiscriminately - thousands of them every year.

Ever since his election in 2006, Mexican President Felipe Calderon had put up a valiant fight against the Mexican drug cartels. By the end of his tenure in 2012, he had placed several areas of the country, including the states of Chihuahua and Sonora, under federal military jurisdiction, i.e. practically under martial law. However, his PRI successor abandoned those initiatives.

Luckily, unlike Venezuela and several other South American countries, Mexico never resorted to extreme policies, and a total break with the United States. This was no doubt because conditions in Mexico remained, despite many challenges, better than elsewhere in Latin America. The factors which kept the hopes of the Mexican people alive were demographic and economic: Emigration to the United States - both legal and illegal - continued at a very high level. This, in addition to a declining birthrate, spared Mexico the disastrous Malthusian population explosion seen in so many other Third World countries. Mexico also received every year billions of dollars of remittances from its expatriates. Finally, the Maquiladora continued to boost the economy of Northern Mexico, a region which continued to be dominated, predictably, by the right-center PAN (National Action Party).

Thus, despite the several extremely violent incidents described in the previous chapter, Mexico and the US remained allies.

This was dictated by the two countries' common interests in trade, their joint war on drugs, and above all their increasing ethnic and cultural similarity. In the past, America's "special relationship" had applied primarily to the United Kingdom. It now applied more and more to Mexico as well.

By the time the US elected President Lopez-Garcia in 2036, the two countries were ready to intertwine their fates. The *Treaty of San Antonio*, signed in 2043, created the *North American Union*, an economic union which would lead, ten years later, to the total political integration of North America. By mid-century, Mexico was no longer a 3rd World country. Its standard of living was higher than that of Louisiana, Mississippi, Arkansas and Michigan.

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On the other hand, most of the remainder of Latin America continued its leftward, anti-American drift - no doubt prompted by worsening economic conditions. In parts of Brazil and Columbia crime reached, in the 2020s and 2030s, the level of urban guerrilla and civil war. The daily number of hostage takings, kidnaps for ransom and assassinations was much higher in Columbia than it had been in Iraq, when that country was *at war*, and higher in Sao Paulo than it had been in Baghdad at the height of the sectarian violence. Brazil was a schizoid society. Its economy was vibrant and it had many millionaires. At the same time, its favelas were among the world's poorest and most criminal areas.

More and more countries followed Venezuelan President Hugo Chavez's socialist and

anti-American banner, including Bolivia, Ecuador, Peru, Guyana and Uruguay. Venezuela itself became a veritable dictatorship, with all sectors of its economy nationalized. Awash in oil money, it exported its revolution to adjacent countries.

By 2029, Hugo Chavez had been the dictator of his country for thirty years - only nineteen years short of Fidel Castro's record. His brand of politics was a mix of right-wing Peronist Socialism, Soviet-style proletarian dictatorship and Castroist anti-Americanism. His People's Revolution was cloned successfully in neighboring countries (Columbia, Ecuador) and farther afield (Bolivia).

The Columbian government, staunchly allied with Chavez, came to a sweetheart deal with the narco-terrorist FARC regime which controlled 60% of the country - "I won't bother you if you don't bother me." Both regimes benefitted at the expense of the United States. Columbia was still one of the world's leading exporter of cocaine, most of which went to the United States. Drugs made up the bulk of its national economy, and of its government's budget. This was reminiscent of the Taliban regime in Afghanistan.

Bolivia split into several independent states, some of which joined the Chavez-led revolution. In the half dozen countries to which the People's Revolution spread, foreign companies were nationalized. The blow fell hardest on the US, who was still the number one investor in South America. Chinese and European multinationals also owned vast investments in that continent, but after those were nationalized, they reached various collaborative agreements with Latin America's socialist governments - against America's vehement but futile protestations. Consequently, the US became isolated in its efforts to combat the Chavez revolution. Its embargo was utterly ineffective, hurting America itself more than the enemy.

America's rage, while impotent, was understandable. There was no dearth of provocations from Chavez and his allies. In addition to nationalizing hundreds of billions of dollars worth of US property, Venezuela invaded and annexed the Dutch Antilles in 2031. The Dutch government had five PT boats at its disposal to defend the islands, and it resisted valiantly for an hour and a half, but to no avail. American President Alonso could do no more than saber rattling, as he already had his hands full with the African mess created by his predecessor, which was precisely the opportunity which Chavez was attempting to exploit.

By and large, the world community looked the other way. The United Nations held a lukewarm debate about Venezuela's attack. The Security Council voted down a US proposal to slap economic sanctions on Venezuela, and even a weaker proposal to condemn that country's act of aggression was vetoed by China, who was joined by France, Russia and Brazil in opposing any criticism of Chavez.

The Chinese position was predictable. Many have said that Chinese policies have always been guided by "expediency over ethics." Neither was European opportunism a surprise. Both economic superpowers had much at stake in Latin America. They were rapidly dislodging the US as the primary investor in that part of the world. Collaboration was far more beneficial than confrontation.

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Brazil's problems were different. A wag once said that "Brazil is the country of the future - and always will be." The country's economic development continued to be accompanied by enormous disorder. The North American Wild West of the late 1800s was a tame affair in comparison with what went on in Brazil during the first half of the 21st century.

In the North and in the West, the Amazon rain forest practically vanished. For nearly a century, the lumber industry, mining, the sugar cane fields for the production of ethanol, cattle ranching and urbanization combined to gobble up the forest at the rate of one football field every 8 seconds, an area nearly the size of Belgium every year! The last remnants of indigenous peoples were corralled into reservations. For example, The Yanomami and Makiritare tribes, which traditionally lived in the upper Orinoco and Rio Negro basins on the two sides of the Brazilian-Venezuelan border, were forced into a reservation in Roraima. While Brazil established US-style Indian reservations, Venezuela's policy on the other side of the border was the forcible assimilation of all native people to the dominant Hispanic culture.

In the urban Southeast and in the coastal regions, crime and disorder soared to levels unknown anywhere else in the world, even in areas classified as war zones. In 2030, Brazil's national homicide rate was 47 per 100,000, i.e. roughly ten times that of the US and that of Europe. In terms of national homicide rates, there were two or three countries still head of Brazil - for example, South Africa, Russia, Estonia and Columbia. However, Brazil's 47 per 100,000 national *average* masked the astronomical rates which prevailed in such mega cities as Sao Paulo and Rio de Janeiro. These two metropolitan regions' populations soared to 30 million and 19 million, respectively. Within these urban jungles, the homicide rate was estimated to exceed 130 per 100,000. More detailed breakdown by neighborhood revealed even more staggering numbers. In some of the favelas, murder rates topped 240 per 100,000. There, one's chances of dying from murder in any given year was one in 400. For men, the probability was twice as high, i.e. one in 200 - each year. Multiply this by 40 for the forty years of adult life the average Brazilian can expect, and you get the probability that one out of five lower-class urban Brazilian men could expect to be murdered. For this population, then, murder was the single most probable cause of death, ahead of heart attack, cancer or any other illness.

In large Brazilian cities, it would have been more accurate to speak of urban warfare than of crime. The gangs were organized with military efficiency. They enjoyed a limitless supply of the most advanced weaponry. They identified themselves, indoctrinated their members, and carried out propaganda in political and ideological terms, claiming to be revolutionaries, not criminals. On the opposite side were the police forces, which would have been outgunned and outmanned, had it not been for support from (1) the army and from the (2) death squads. Add to this an incredible level of corruption, whereby anyone could switch sides on any day, depending on where the greatest rewards lied, and it is easy to see that there was absolutely no end in sight to a status quo and a stalemate which turned life into hell for an increasing number of Brazilians.

The gangs' primary source of revenue consisted of ransom money, obtained in return for the release of the tens of thousands of people they kidnaped every year. The typical middle-class Brazilian professional could not commute to work by automobile or by public transportation. The only safe way for a lawyer, a physician, a professor, a business executive, a government employee or a television anchorman to travel was by helicopter. Rio, whose population was roughly the same as that of New York, had 40 times more helipads! The most common way to commute to and from work was by helicopter - private ones for the rich, helipooling for common white-collar employees such as teachers.

While the gangs possessed thousands of Stingers and other portable surface-to-air missiles, they saw no benefit in shooting down helicopters and destroying potential hostages for ransom.

But since not all urban traffic could become airborne, many members of the middle-class went through the experience of being kidnaped at least once or twice. People became inured to the situation. They coped through gallows humor.

South American Nation States



2. Western Europe: European history from 1616 to mid-century was affected by two facts above all: (1) The Great World Depression, and (2) the progressive “Arabization” of the Continent.

In France, it was Nicholas Sarkozy who happened to be in charge when the world economy collapsed. When he left the presidency in 2016, His Gaullist government's legacy was a very cautious conservative *status quo*. By and large, Sarkozy had adhered to his predecessor's - Jacques Chirac - policies. The 35-hour workweek, which he had promised to raise to 40 during his campaign, remained in place. Automatic admission to the university and a 100% free university education for all high school graduates was still the law of the land. Amnesty for three million illegal African immigrants, which Sarkozy had promised to veto while campaigning, was passed by parliament and signed into law by the President.

Another campaign promise which Sarkozy was unable to fulfill was *rapprochement* with America. Pressured by continued anti-Americanism among the people, the President was forced to pursue a neutralist foreign policy and to resist President Obama's frequent overtures. The only significant departure from the Chirac era was that when the French voted for a second time on the European constitution, they now approved it. The following decades were turbulent and difficult for all of Europe, but especially so for France, which had greater difficulty recovering from the World Depression.

David Cameron's stewardship of the British government was more successful. After succeeding Gordon Brown and replacing the Labor government with a Conservative coalition, the Prime Minister swiftly refocused his government away from the war on terrorism and upon the economic calamity that befell his country, as it did the rest of the world. Thus, by 2016, Britain was entirely out of both Iraq and Afghanistan. Instead, the administration was simultaneously cutting back where it could, and launching massive stimulus programs, so as to turn the British economy around. As a result, the British economy was in full recovery by 2021.

As part of his "stand-down" policy in the war on terrorism, David Cameron also softened some airport security requirements, as well as M15 (Security Service) programs.

This was a mistake: In 2023 and 2024, Britain suffered three devastating terrorist attacks. Suicide bombers blew themselves up at two London hospitals - the London Jewish Hospital and the Royal Marsden Hospital - and at the University of Manchester. The bloodiest of the attacks was the one at London's Jewish Hospital, where 255 people died, including a large number of patients and medical staff. The other two attacks also took several dozen lives each.

As a result, British public opinion veered further to the right, blaming the government's laxness for the disasters. David Cameron, having lost the confidence of the electorate, was replaced by *Sayeeda Warsi* at the head of the Conservative Party, which thus managed to remain in power.

As far as the war on terrorism and the trans-Atlantic alliance were concerned, the shoe was now on the other foot: The new Conservative British prime minister was ready to wage all-out war on Muslim terrorism, whereas American President Alonso was seen as preferring a somewhat softer approach.

In Germany, Chancellor Angela Merkel lost the 2016 election to Helmut Schwanzenberger, a member of the resurgent Green Party, which had garnered strength from its merger with the *Gay and Trans-gender Alliance*. Schwanzenberger was a former Sociology

professor at the University of Frankfurt. The direction into which he planned to guide his country was not yet clear. For the time being, editorialists limited their comments to jokes about the similarity between his name and that of the former governor of California, and their political differences.

All in all, there was something uncanny about Europe at this time. Had Napoleon been able to observe the Continent in 2020, he would have concluded that his dream had come true at long last: France was the dominant ideological force on the Continent, claiming to speak for and to represent Europe at the United Nations and in the world at large. Germany remained France's loyal ally and follower, economically strong but rarely speaking as an independent voice. The Franco-German alliance dominated the remainder of Europe, and its voice was unmistakably French.

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The quality of life in Western Europe suffered, but thanks to the generous social safety net, it did not suffer as much as it did in the US. The cradle-to-grave welfare state was strongly entrenched. The economic downturn and the ever stronger Euro caused European exports to suffer, but protectionist policies saved millions of jobs. European military spending remained low, and Europe's vast resources were put into the fight against the global ecological crisis.

If Europe had an Achilles heel, it was its demography paired with immigration. Unable to sustain its native population, the Continent was flooded by ever larger numbers of Third World immigrants, including Eastern Europeans, Africans and Middle Easterners.

European Crime: One consequence of this was a growing crime rate. It is instructive to compare European and American crime trends: For decades Europeans had derided America for its high crime rate, especially its murder rate, which was ten to twenty times higher than that across the Atlantic. Europeans missed no opportunity to comment on America's widespread gun ownership, and to blame it for its high homicide rate. However, America's crime rate had been declining since the early 1990s. This was often attributed to the country's crackdown on crime, but that might not have been the whole story. America also seems to have undergone a subtle cultural shift leading to less crime (see previous chapter). For whatever sociological and legal reasons, by the 3rd decade of the 3rd millennium, America's murder rate had been cut by 60% - from over 10 per 100,000 in 1989 to 4 per 100,000 in 2023. The trend for other crimes was similar.

Meanwhile, the murder rate in Europe kept rising, to the point where it was no longer only Russia and Eastern Europe whose crime rates were on a par with, or above, America's, but also that of Western Europe. Russia and other Eastern European countries had suffered from much higher rates of murder and other crimes than the US for a long time. Russia's murder rate had been four times that of the United States for several decades, and that of Poland and Hungary were about the same. The streets of Moscow had been far more dangerous than those of New York at least since the fall of Communism, if not before.

By the 2020s, Western Europe had lost its advantage. Cities like Helsinki, Lisbon, Amsterdam and Paris had murder rates which were higher than those in Minneapolis, Boston, San Francisco and San Diego. The total murder rate in France was now 4.5 per 100,000, that of the Netherlands was 4.8 - both higher than the U.S. rate.

In response to their rising crime rates, the Europeans were now also locking up just about as many people as America was. By 2020, Britain's rate of incarceration was 650 per 100,000, that of the Netherlands was 500. America's rate of 750 was still slightly higher, but not by much. Finally, some European countries also re-introduced the death penalty, including several Eastern European countries, Portugal, and the United Kingdom.

Thus, Europeans were forced to re-examine some of the moral arguments with which they had so frequently lambasted America in the past, including their facile advocacy of gun control as the cure-all for crime, their opposition to capital punishment, and their criticism of "fascist" America for jailing too many people.

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The membership of the European Community continued to expand. Russia was admitted as a member in 2038. The other major addition was that of Turkey in 2043. That country had lobbied for membership for over sixty years. By now, its population was 120 million, making it the largest member of the Union - not only ahead of Germany, whose population had declined to 74 million, but also surpassing Russia's.

For decades, Europe had been leery of admitting a large Muslim country into its ranks. However, the continent had undergone a steady demographic Arabization for many years. North Africans continued to stream into France, Turkish guest workers into Germany, Muslim Bosnians into Italy, Hungary and the Czech Republic, Indonesians into the Netherlands, etc. In addition, these immigrants enjoyed a far higher birthrate than the native Europeans, whose fertility was below replacement level. The population of countries such as Denmark, Germany, Switzerland, Italy, Hungary and Russia was declining. Had it not been for the immigrants and their offspring, Europe's population would have fallen even more precipitously.

By the late 2030s, Muslims outnumbered Christians in France, and they made up half of Germany's population. Public opposition to Turkish membership withered away. With Turkey's admission to the Union, Europe became part of the Muslim world.

3. Russia and Eastern Europe: Again, Auguste Comte's statement "demography is destiny" comes to mind. The absorption of Europe into the Muslim orbit is one illustration of that principle. Another one was the depopulation of Russia.

Unable to solve its public health (alcoholism) problems, the former superpower lost so many people to its high mortality rate and its very low birthrate, that it was barely able to hold on to its vast Siberian territory. Yet, that is where its enormous oil and gas reserves and its other mineral resources were located. Across the border were 1.5 billion Chinese, the largest agglomeration of consumers and workers on earth. By the 2040s, the flood of cross-border Chinese migrant workers was under way. The Russians lacked the manpower to develop their vast Asian territory. Nor had the rest of Europe any help to offer, as it was suffering from labor

shortage itself, despite the continued influx of immigrants. There began a flow of Chinese temporary workers moving into Siberia.

Was this the beginning of the “Sinification” of Far Eastern Russia? The relationship between China and the European Union was excellent, and both sides were eager to develop joint economic policies for Far Eastern Russia. That part of the world was now entering a process similar to what had happened in the American Southwest between the 1950s and the 2040s. A demography and economy-driven upheaval which would fundamentally change the map. What Far Eastern Russia would look like in a century or two, was anybody’s guess.

Russia’s continued population decline and its worsening public health were worrisome. During the heyday of Communism, the Soviet Union’s population had been considerably larger than that of the United States. As the two super powers started each other down during the Cold War, Russia’s advantages over the United States seemed to include its vast territory, its enormous natural resources and its larger population. Half a century after Russia shed Communism and the other republics which made up the USSR, the downsized country’s population was *one fourth* that of the US! And while the American population continued to grow at a healthy 1% annual rate, Russia’s population was declining, as was its life expectancy. By 2035, Russians could expect to live an average of 63 years. This was 17 fewer years than Americans, 19 fewer than the Japanese, 12 fewer than Latin Americans and about the same as the people of India.

In addition, Russia continued to suffer from a high degree of lawlessness. Crime was the norm at all levels - in the streets, in corporate offices and in the government.

Thanks to its rich oil and gas deposits, the Russian economy at first rebounded from the dismal depth to which it sank shortly after the collapse of the Soviet Union. However, even when the economy grew at an annual rate of 7% to 9% during the first decade of the 21st century, the economic disparities remained staggering. Half the Russia’s total wealth was located in the Moscow region.

The Great World Depression took a toll on the country, despite Prime Minister Vladimir Putin’s machinations. It was, indeed, former President - and now Prime Minister - Putin who remained in full control of Russia’s lawless and disorderly efforts to hold on to wealth and power. Putin had stepped down as President in 2008, due to term limits. However, his replacement at that post by Dmitri Medvedev was mere window dressing. As the new Prime Minister, Putin was as powerful as ever. The country’s rich natural resources enabled it to accumulate substantial financial reserves and to throw its weight around in international affairs, even during the Depression. Russia repeatedly browbeat Georgia, Ukraine and some other former members of the USSR. It blackmailed Eastern and Western Europe by threatening to turn off the oil and gas spigots, usually in the winter.

The regime was less and less democratic and increasingly authoritarian, arresting, locking up and sometimes executing anyone perceived as opposing or threatening it. The victims included members of the liberal press, intellectuals, as well as billionaire tycoons such as Alexander Shannin. Getting rid of such men and confiscating their fortunes provided the

government with the added advantage of enormous revenue.

This seemed to be a page out of Roman history. At that time, dictators such as Sulla had assembled *proscription* lists of people who were then charged with treason, but whose true crime had only been that they were wealthy Patricians. The true object of the proscriptions had been to replenish the State's coffers, and it was to this end that many wealthy individuals were rounded up, executed and expropriated. A similar phenomenon seemed to be at play in 21st century Russia - although the country's distribution of wealth was so obscenely out of whack that it *did* cry for some form of forced redistribution, albeit one that took a somewhat less bloodthirsty, lawless and arbitrary form.

In the end, Putin caused his own downfall, due to his unwillingness to give up the reigns of power. In 2016, President Medvedev tried to replace him as his Prime Minister. Putin contrived to change the Constitution so as to run for the Presidency again. This broke the camel's back. There was already an accumulation of resentment against him. Now, some dissidents resorted to extreme measures. On March 25, 2021, Putin was assassinated. The authorities promptly put a spin on this and claimed that the assassin was a Chechnian nationalist. The army rounded up and executed several dozen Chechnians both in Chechnya and in Russia. However, many people suspected that the killer had been hired by one of President Medvedev's corporate billionaire supporters, some of whom were being threatened with expropriation and imprisonment by Putin. After Putin's death, President Medvedev selected Anatol Sukachev as his new Prime Minister, a low-keyed pragmatist who helped the country weather the storm.

The following years were a period of rapprochement between Eastern and Western Europe. Most of Eastern Europe had already joined the European Union and the Euro zone before 2010. Initially, the integration of Eastern Europe into the Western banking system and the Western economy had invigorated such countries as Hungary, Poland and the Czech Republic, but when the financial crisis hit in 2008, they were dragged down along with the rest of Europe.

As to Eastern Germany, because it was now an integral part of Germany itself, its economy improved spectacularly despite the Depression. By 2017, its standard of living was similar to that of the West.

In 2019, Russian President Medvedev approached the European government in Brussels with a request to consider admitting Russia to the European Union. While negotiations promised to be difficult and protracted, Russian membership was by no means an outlandish idea. Were this to eventually happen, it would produce an economic block of staggering dimension, a territory ranging from the Atlantic to the Pacific, natural resources second to none and an economy larger than that of the United States, China or Japan.

4. The Middle East: As was mentioned in the previous chapter, the Middle East experienced a devastating war in December 2017, which resulted in the withdrawal (some might say *expulsion*) of the United States from Afghanistan.

Although both Israel and Iran now possessed nuclear weapons, neither country used them during the brief war, thanks to a flurry of international activity and worldwide pressure

resulting in the early cessation of hostilities. However, the war left Israel in a greater state of devastation than any of the previous five wars she had fought since its independence in 1948.

In order to safeguard its very survival, Israel employed a divide-and-rule strategy: Attacked both from the North by Iran, Syria and the Lebanese Hetzbollah, and from the South by Gaza's Hamas forces, Israel re-occupied Gaza, while offering Syria the olive branch in the form of a promise to return the Golan Heights immediately after a cease-fire.

It didn't work the way Israel had planned it: A month after repossessing the Golan Heights, Syria permitted its settlement by Hetzbollah, and shortly thereafter this group began to lob shells onto Israel's Huley Valley below, and to conduct raids across the border. Israel had no choice but to re-occupy the Heights - something which required a bloody battle and cost the country many lives and much treasure.

While Israel was able to re-occupy Golan, it was not able to prevent Lebanon's final and total takeover by Hetzbollah. The 2006 war had been a draw - at best - and a painful but useful lesson. The Jewish state understood that it could not get bogged down in another Lebanese war, where it would now face the organized military forces of a Hetzbollah government, supported by Syria and Iran.

While Lebanon was a lost cause to Israel, the Westbank was, for the time being, a success. After the split between a Hamas-controlled Gaza and a Fatah-controlled Westbank, the latter Palestinian territory became the recipient of massive economic assistance from the United States, Europe, other G-20 members, Israel, Saudi Arabia and others. Adding it all up, the two million Palestinians living on the Westbank enjoyed a per capita income twice as high as Latin America and approaching that of some parts of Europe. Under these circumstances, President Mahmoud Abbas thought it wise to bury the hatchet, and the Palestinian people wholeheartedly agreed. Increasingly integrated with Israel, the Westbank Palestinian economy grew at an astonishing rate of 16% per year, based primarily on a booming electronics industry. Plans were afoot for the total integration of the two economies, while recognizing Palestinian political independence - modeled after the European Union.

Jewish building in the West Bank continued, but the matter became moot, as Jewish and Palestinian neighborhoods became increasingly integrated.

Festering on the South side, there remained Gaza - an ever poorer, more volatile and more incendiary place, a human anthill, a city, a refugee camp, a colony, an occupation zone, a military base all in one. At this time, it was once again under heavy Israeli military occupation, as always ready to explode and to drag the Middle East and the world into renewed, out-of-control war. Despite its occupation of Gaza, Israel was unable to root out Hamas, which went underground and continued to enjoy the support of a majority of the people in Gaza.

All reasonable parties had long advocated the "two-state" solution to the Israeli-Palestinian conflict - two separate and independent states, namely Israel and Palestine. What actually came about was a "three-state" solution: The Palestinians were split between Mahmoud

Abbas' moderate Fatah, which controlled the Westbank, and the radical Hamas Party in Gaza. This resulted in two Palestinian states. The three million Palestinians who lived on the West Bank were increasingly affluent and at peace with Israel. On the other hand, the two million inhabitants of Gaza were crowded into an area of 139 square miles. They lived in squalor and misery and thought of nothing but the annihilation of Israel. The split was reminiscent of what had happened in Korea over half a century earlier: The artificial division of a common people into two separate states, each pursuing its own destiny, one to its perdition, the other one flourishing.

The war against Iran in 2017 had devastated and radicalized Israel, strengthening the Likud party and its leader, Benjamin Netanyahu. However, the grand old man of Israeli politics knew how to be a pragmatist. Like Ariel Sharon before him, Netanyahu provided another example of the Nixon-to-China principle: Only a man perceived to be a staunch nationalist could afford to be magnanimous in his dealings with a hostile regime - the Palestinians.

Netanyahu, who remained Prime Minister until past his 78th birthday, pursued a divide-and-rule strategy. He made generous concessions to the West Bank Fatah government. By 2028, the relationship between Israel and Fatah was so good that Israel proceeded to dismantle the last remaining Westbank partitions.

At the same time, the administration remained very firm in its dealings with Hamas. By the early 2020s, the occupation of Gaza had become prohibitively costly in lives and treasure. The IDF was losing one or two soldiers every day. In 2023, Netanyahu decided to pull out and, instead, to erect a massive partition. A formidable high-tech border fence was built. The fortification included an 18-foot high electrified razor-wire fence, surveillance cameras, guard towers manned around the clock by Uzi-carrying special forces, mined ditches and constant patrolling to prevent tunnel digging by the enemy.

While this improved Israel's security, it did not eliminate all attacks. Suicide bombers managed to cross the border through a labyrinth of tunnels dug deep underneath the fence, and Hamas continued to lob rockets into Israel, whereupon the IDF would invariably launch an air raid or two and send tanks into Gaza. On balance, the government's divide-and-rule strategy did yield a modicum of peace. From 2020 to 2048, Israel experienced no major Intifada - merely sporadic attacks.

In the end, it was once again Auguste Comte's demographic factor which turned out to be the Jewish State's undoing. The growth rate of the Muslim population both within Israel and in the Palestinian territories remained extremely high - an astronomical 4.5% per year in Gaza. At the same time, the size of the Jewish population was stagnant. Its birthrate was below replacement level, and decline was only averted through immigration. In 2039, the number of Muslims *within* Israel for the first time exceeded that of Jews. It was projected that shortly after mid-century, two thirds of Israel's population of twelve million people would be Muslims. Add to this the ten million Arabs living in Gaza and the West Bank, and you are talking about an area where 3.9 million Jews live among 18.1 million (largely Arab) Muslims.

As in South Africa until 1994, a numerical ethnic minority controlled and dominated a large ethnic-cultural majority. Despite the impressive economic progress achieved by West Bank and Israeli Palestinians, they remained second-class citizens within the confines of a nation which had been created, by definition, as a Jewish State. By the 2040s, per capita income in such West Bank cities as Nablus exceeded that of Tel Aviv.

However, ethnic oppression takes many different forms. It is not uncommon for a minority to enjoy higher wealth than does the surrounding majority, yet, at the same time, to remain the victim of social and political discrimination. This is what happened to Jews during their diaspora, as well as to the Chinese populations in the United States and all across South East Asia. In the United States, the economic and educational position of Asian-Americans has long

been superior to that of European-Americans, yet their social and political status remained inferior. Similarly, the Palestinians in Israel and in the occupied territories remained second-class citizens, no matter how much economic progress they achieved.

Indeed, the situation resembled that of South Africa half a century earlier. The similarities were compelling. *Apartheid!* screamed the worldwide anti-Israel lobby - with some justification.

In the end, it was not only the problem which was reminiscent of what happened in South Africa at the end of the 20th century, but the solution as well. During the first four decades of the 21st century, the world mounted an increasingly strident but effective campaign - spearheaded by the United Nations - against Israel's *Apartheid*. Europe introduced economic sanctions. These were inconsequential, and in fact the economies of both Israel and the Palestinian West Bank thrived throughout this period.

However, the political pressures emanating from the international community did have an impact. They certainly accounted for the many concessions made by Prime minister Netanyahu to the Fatah government, and for the great improvement in the lot of West Bank Palestinians.

Another factor which, paradoxically, helped move things along, was the conspicuous *absence* of the United States from the diplomatic process. After the 2017 war, that country's influence in the Middle East had been, if not totally neutralized, certainly drastically reduced. As a result, Israel knew that it had to sink or swim on its own.

Netanyahu's long Likud administration finally came to an end in 2028, and it was followed by a coalition government dominated by the Labor and Kadima parties, and also featuring members of the *United Arab List*. Negotiations began for a fundamental overhaul of Israel's political system. Finally, in 2047, the country adopted a new constitution, making it a multi-ethnic, multi-religious, secular state modeled after the United States and France. Israeli *Apartheid* came to an end. All Israeli citizens - Jews, Muslims and others - were fully equal before the law.

Israel and Palestine



Many Jews - especially the older generation, and of course the Orthodox faction - deplored the death of the Zionist dream. There would be no Jewish state. Some began to emigrate, primarily to the United States, thus further reducing Israel's Jewish population.

The Gaza problem was left festering. There, future conflict could be anticipated. But for now, the most important Middle Eastern problem had, after a century, been solved the same way as that of South Africa: the transition was peaceful, there was no bloodbath. Pessimistic

predictions of “Israel being tossed back into the sea” had not been realized.

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One further major Middle-Eastern development during this period must be touched upon: Saudi-Arabian oil production peaked in 2027, and thereafter it began to decline rapidly.

World production had already peaked five years earlier, at 95 million barrels per day. At first the total flow of oil did not go down significantly, because Saudi Arabia was able to make up for declining production in Canada, Russia, Venezuela, Nigeria, Iraq, Iran and other major producers. However, once Saudi production also reached its limit, the decline in world oil production and consumption was under way.

Some parts of the world had braced themselves better than others for the energy crisis. Europe and Japan were the most successful at weaning themselves from oil.

In the United States, the response was mixed. The tripling of crude oil prices in 2007-08, even though followed by a sharp decline, caused Americans to begin a slow, long-term reduction in their consumption of gasoline. Thus when world oil consumption peaked in 2022, America’s share of this had declined to 15% - from 25% fourteen years earlier. By then, China surpassed the United States, to become the world’s number one consumer of petrol, at 18%.

By the time of the Treaty of San Antonio (2043), these *proportions* had changed very little. However, all countries had been forced to reduce their *absolute* levels of consumption, since total world production was now down to 63 million barrels per day. Thus, the three countries which would soon make up the North American Union *together* consumed roughly the same amount of petrol - 14 million barrels a day - in 2043 as the United States had done in 2020 *alone*.

Even though China’s adjustment to the energy shortage occurred in a different context, the end result was similar: By 2043, its share of world consumption remained the highest, at 18%, but this only amounted to 12 million barrels per day, down from 17 million twenty years earlier. Because the Chinese economy had been a booming and a developing one, rather than a mature one such as that of the NAU, the energy crisis hit it much harder. The economy slowed down and began to stagnate, which led to political instability (see next section).

5.Asia: During the 2020s, the situation in Southwest Asia was more precarious than ever. One factor which contributed to this was the Iran-Israel war of 2017. However, with or without that conflict, conditions in Afghanistan, Pakistan, Kashmir and adjacent areas were bound to deteriorate. After America’s departure from Afghanistan, Pakistan became ever more unstable. Stability in the region now depended on India, but that country could only do so much. As we shall see in a moment, it was only a matter of time before the powder keg would explode.

China: While Southwest Asia was in turmoil, the news from East Asia was much better: Until the mid twenties, the Chinese economy remained strong. The country weathered the Great World Depression better than most. As a result of its enormous positive balance of trade with the rest of the world, it had accumulated huge reserves. During the second decade of the century, its

exports declined, and this could potentially lead to unemployment. However, the Chinese government used the occasion for vast investments in domestic infrastructure and the other domestic needs of a billion and a half people. The economy's growth rate slowed down from double digits to 6% or 7% - still the envy of the world. In 2027, the country's GNP became the largest one in the world, leaving that of Europe in 2nd place and that of the US in 3rd.

In 2025, China's economy began to slow down more significantly, finally affected by the world energy crisis. As world oil production peaked and competition for "black gold" among nations drove the price of crude to ever more dizzying heights, China began to suffer the same consequences as those which had befallen the more advanced industrial states earlier.

In the 2030s, even though China's overall economy was the largest in the world, its per capita income was still only half that of America and Europe, as the Chinese population, at a billion and a half, was four times larger than America's and three times greater than Europe's.

The Chinese government had become somewhat liberalized. The Communist Party now permitted a number of additional parties to put up candidates for office, at least at the regional level. Hong Kong and Macau were joined as special administrative regions by Taiwan, which rejoined mainland China in 2039, and continued to be ruled by the *Kuomintang*. Tibet was also designated as such a special region. These four areas enjoyed a degree of autonomy which did not exist elsewhere in the country.

From the 2030s onward, the economy began to deteriorate and unemployment rose. This led to political turmoil. Millions joined the ***China Democracy Party***, which had long been at loggerheads with the government, but now became much more daring in organizing marches, strikes, and political campaigns. The government's response was a combination of crack-downs and concessions. However, there was no repeat of a Tianmen Square-type crackdown. The army was far too sympathetic with the new democracy movement for that. By 2043, China was following its own version of *Glasnost* and *Perestroika*, and it was on its way to becoming a full-fledged democracy. Only the future would tell whether the transition would be orderly or turbulent, as it had been for Russia half a century earlier.

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Japan: The Japanese and South Korean economies also continued to do better than those of Europe and North America, due to their continued edge in electronic and automotive technology. By the second decade of the century, the victory of Asian car manufacturers over Detroit was total and irreversible.

In 2036, Sony introduced ***Virtulife***. This new technology had the potential to revolutionize not only human communication, but human *life* itself. *Virtulife*'s hardware consisted of a large mask- goggles combo, fully encasing the user's head, including his eyes, ears, nose and mouth, a manual control handle and a series of USB ports hook-up.

Such full electronic "body armors" had been around for years, for example at video arcades, where kids would engage in virtual combat and shoot up virtual enemies. However,

Virtulife's software took a quantum leap forward: It had the potential for providing the user *virtual reality at a distance*. It might make it possible for people not only to communicate with each other audiovisually, but to be virtually *transported* to the other party's office or living room. *Virtulife* would replicate sight, sound, smell and motion. It promised an experience close to tele-transportation. If the technology became successful, users would be able to quote Captain Kirk and say, "beam me up, Scottie."

For now, *Virtulife* remained experimental. It required an enormous amount of RAM, and the few existing prototypes cost millions of dollars.

The Japanese and Chinese governments partnered in funding a 2 trillion yen research program to make *Virtulife* a reality. The promise of mass virtual travel - as predicted in the 1990 movie *Total Recall* - and virtual mobility was enormously attractive, as a means to reduce commuting, driving and travel, thereby alleviating the planet's environmental crisis, and its looming oil depletion.

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Later during the 21st century, Japan's position in Asia changed. The country lost its economic clout vis-a-vis China. Again, demographics played a major role. The Japanese population had long been in decline, reaching 110 million in 2045. In order to keep its advanced economy humming, the country was forced to import millions of guest workers and migrant workers from the mainland of Asia. The main sources of imported labor were China and the Northern part of Korea.

I say "Northern part of Korea" rather than North Korea, because the peninsula was finally re-united in 2040. However, just as when Germany became re-united, the former Communist part of the country put a severe economic strain on the affluent South. By itself, South Korea was not up to the task of rebuilding the northern economy. For that, it required the assistance of China and Japan. Thus, Japan opened its doors to hundreds of thousands of North Korean temporary workers, whose remittances to their home country were a major factor in rehabilitating it.

Finally, Japan's admission to the United Nations Security Council gave it enhanced stature and international clout. Japan was no longer one of the world's economic giants. Its GDP, now dwarfed by those of China, the North American Union, the European Union, and even surpassed by Brazil and India, ranked as the 6th largest in the world, down from Number Two at the beginning of the century.

However, the country became the seat of an increasing number of major international governing bodies, including the *ISA (International Space Administration)*, the *WEA (World Environmental Agency)*, the *NPT (Nuclear Non-Proliferation Treaty) Enforcement Administration*, and the headquarters for the annual meeting of the G20 (the expanded G8 of yore).

The ISA coordinated its work with the United Nations, although it was not formally a branch of it. It ran the two international space stations in orbit around the earth, and it oversaw

the construction of the permanent stations orbiting the moon and Mars. Its membership was limited to the nineteen states with space programs.

The World Environmental Agency was headquartered in Kyoto, and it was in charge of enforcing Kyoto II. This accord had been signed by 186 countries, including the United States, China, India, Brazil and all the other major world economies. It went into effect in 2034 and it was binding. The protocol specified the amounts of greenhouse gasses permitted for each country, although it allowed trade in emissions credits. Economic sanctions were specified for non-compliance.

The NPT Enforcement Administration's responsibility was to monitor and enforce the Nuclear Non-Proliferation Treaty - in coordination with the Vienna-based International Atomic Energy Commission. Between 2008 and the 2030s, only one new nuclear state joined the ranks of the countries already so armed - Iran (these being the US, Russia, the UK, France, China, Israel, India and Pakistan). On the other hand, six countries had dismantled their nuclear arsenals: South Africa, Libya, Ukraine, Belarus, Kazakhstan and North Korea. It could therefore be said that nuclear non-proliferation was working.

The annual meeting of the world's major economic powers had long been an itinerant event - meeting in Genoa or in Halifax one year, and in Okinawa or Saint Petersburg the next. It was finally decided in 2027 to make this event stationary, and the facility which was selected for that purpose was the beautiful center at Lake Toya in Hokkaido, where the G8 had met in 2008. During the following fifteen years, the G8 became the G20. The new members were China, Spain, Brazil, India, Korea, Mexico, Australia, the Netherlands, Turkey and Sweden. The media had long mislabeled this group of countries, calling them sometimes the "industrialized" nations of the world, or the "richest," or the most "developed." In fact, many of these states were less industrialized than other ones which were not part of the club. Nor were these the richest nations in the world. There was only one criterion for membership, and that was the world ranking of each country's GDP. These were simply the world's 20 largest national economies.

As more and more international organizations established their headquarters in Japan, that country became sort of the "Switzerland of Asia," or perhaps the de facto political and diplomatic capital of the world.

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Indian Sub-Continent: News from the Indian subcontinent was both good and bad. By the late 2030s, India's population surpassed China's. With 1.7 billion people, India was the most populous country in the world, with twice as many people as North America and Europe combined! Nevertheless, the Indian economy continued to improve. The vast country housed side by side over a billion wretchedly poor people, and hundreds of millions of affluent middle-class and upper-class bourgeois. India had more billionaires than the United States, including the three richest men on earth.

The situation in Pakistan, next door, was not as rosy. After the assassination of the charismatic and promising opposition leader Benazir Bhutto in 2007, President Musharraf, his successors and the military had increasing difficulty keeping a lid on dissidents. They vacillated

between periodic crackdowns against middle-class urban protest, and a policy of concessions and laissez-faire towards the growing power of the Taliban and of Al Qaeda in the North-West Frontier province. Only with tenuous American support was the pro-Western regime able to stay in power, and after the neutralization of American power in the region in 2017, it was finally overthrown. After a period of turmoil, the Mullahs gained control of the government. Their first act was to behead the former President and his family - on national television. The Taliban had finally returned to power, not only in Afghanistan, but also in a country that possessed nuclear weapons and whose population was the fifth largest in the world.

6. Africa: During the 2nd decade of the 21st century, the Dark Continent got darker. History always seems to have conspired against Africa. As far back as recorded time goes, Africa has existed to be exploited. Scholars - for example Thomas Sowell and Jared Diamond - who have grappled with the Continent's perennial under-development vis-a-vis other parts of the world, have generally used geographical deterministic explanations. As a technologically and militarily under-developed continent, Africa was ready for the picking, i.e. for colonialism and slavery.

With independence in the middle of the 20th century, progress was expected. However, it did not come - at least not uniformly. While post-independent Africans have made enormous contributions to the world since 1945, the overall condition of the African people has continued to lag behind the rest of the world.

If ever there was a time and a place where Thomas Malthus' dire predictions seemed to have been fulfilled, and where the three well-known Malthusian checks - war, starvation and disease - seemed to be at work, it was Africa at this time:

1) The AIDS epidemic continued largely unabated. While some progress was achieved in East Africa - Kenya, and Tanzania, for example - it remained out of control in many other countries. As a result, while the African population continued to grow due to its sky-high birthrate, life expectancy declined to 43 years. The most precipitous decline in life expectancy was occurring in South Africa, the country which claimed to be a regional leader.

2) At any given time, there were half a dozen wars going on in Africa simultaneously, wars which differed from those elsewhere, in that they took a far greater toll on civilians than on combatants. In Africa more than elsewhere, war often meant genocide. Somalia was now a name better used to refer to a battlefield than to a country, a battlefield for Ethiopians, Eritreans, Muslims, and various external sponsors.

Darfur was the Southern Sudanese region where a conflict had originated, a conflict which had expanded and which was now engulfing neighboring countries, for example Chad and the Central African Republic. This conflict was initially between the Sudanese government-supported *Janjaweed* militia, and rebel tribes. By 2019, it had escalated into an international war. In addition, the Congo was still at war with its neighbors, including Ruanda and Burundi.

Revolution or Destruction?

The 14th century Arab sociologist Ibn Khaldun proposed the following three-stage cyclical theory of history: (1) as a society advances, it becomes more civilized and sedentary, it develops urban culture, technology and a higher standard of living. Meanwhile, the surrounding peoples remain tribal, nomadic and primitive. The two types of societies are in conflict. The more advanced urban society may oppress and exploit the tribal nomadic peoples outside. (2) In time, the latter outgrow the former in population and in strength. The urban civilization becomes morally weak, and its birthrate declines. Eventually, the less highly developed but more vigorous peoples overrun and destroy the effete urban civilization. (3) Then the cycle repeats itself.

The histories of ancient Rome and ancient China illustrate Ibn Khaldun's theory. The modern era provides another example: In Pakistan, for instance, President Pervez Musharraf, his successors, and the armed forces maintained a tenuous rein on parts of the country. However, several provinces - for example Waziristan and Baluchistan - were already under the control of the Taliban and of Al-Qaeda, and each year additional parts of the country escaped from central government rule. Soon the authority of the secular, pro-western government was limited to a few urban centers such as Karachi and Islamabad. This trajectory followed that of Afghanistan where, before the entire country reverted to Taliban rule and an opium-based economy, President Hamid Karzai's pro-western government's authority had been largely limited to Kabul. A few years later, Pakistan joined the ranks of radical Islamic theocracies.

The process repeated the familiar pattern of many 20th century revolutions: The uprising begins as rural guerilla warfare, it gradually advances against the urban bourgeoisie, and it ends up strangling the city.

Mao Tse Tung did it this way, so did Fidel Castro and the Viet Cong, and so did Pol Pot, whose psychotic anti-urban rage led him not only to take over the city, but to destroy it altogether - killing three million Cambodians in the process of "ruralizing" the country.

Some revolutions merely aim to take over the urban power centers. Their aim is - to use a neologism - "regime change." Such were the American, the French, the Russian and the Cuban Revolutions. Other uprisings are more nihilistic. Their aim is not regime change, but it is to *destroy* - period. These revolutions are not revolutions at all. They are frenzies of destruction, such as the barbarian invasions and destruction of ancient Rome, or Timur's destruction of Delhi.

To which group of "revolutionaries" did the Taliban, the Mullahs, Al Qaeda, the radical Islamic clerics, the Ayatollah Khomeini's of the world belong? Was their aim to replace one civilization with another, or to wipe out civilization altogether? The Taliban's destruction of the Buddha's of Bamyán in 2001 suggests that they belong to the latter.

The greatest catastrophe to befall Africa in this respect was the nuclear war fought on that Continent between the US, Iran, and their proxies between 2032 and 2034 (see Chapter One).

3) Hunger and starvation had been endemic for centuries, but now two factors aggravated the problem: mismanagement and global warming. In Zimbabwe for example, President Mugabe's disastrous policies caused the collapse of agriculture and of the country's entire economy. Elsewhere, it was primarily global warming which caused the destruction of the African food supply. For example, the Sahara was expanding South into the *Sahel* by fifty miles a year. Lake Chad, formerly one of the world's largest, ceased to exist shortly after 2018.

In a grim and perverse way, global warming began to contribute to the solution of the Sudanese "problem." As drought and mass famine spread, they caused the gradual depopulation of central Africa, despite massive international aid. There were simply fewer people left for the Janjaweed to kill.

As to Zimbabwe, Mugabe's successors, including Morgan Tsvangirai, were unable to turn things around. Not only was the damage done by Mugabe's mismanagement nearly irreversible, but in addition the army continued its rampage even after the dictator's death in 2017.

By then, 100% of the Zimbabwean economy had reverted to barter. In March of that year, prices were doubling every 15 hours. This produced a monthly inflation rate of *forty-one quadrillion percent* - the same as in Hungary after World War I, ninety years earlier. At that point, the government ceased to print money, but not before it had come out with a *one hundred quintillion dollar bill*, i.e. a "1" followed by 20 "zeros"!

Dictator Mugabe died in 2017. He was 93 years old, and no one had been able to dislodge him. South Africa decided to "rescue" the neighboring country. Whether South African President Motlanthe's claim that he was "liberating" Zimbabwe was a pretext for imperialist aggression or not, remained to be seen.

True, the world had long clamored about Mugabe's dictatorial oppression of his people. There had been frequent demands for international action, either by the United Nations or by the African Union. When President Motlanthe occupied Zimbabwe - temporarily, he stressed, and only to make sure that the Zimbabwean army, which had been Mugabe's strongest source of support, would not perpetuate the dictatorship - he could claim to have widespread international support. However, there were those who predicted a situation similar to America's "liberation" of Iraq from Saddam Hussein in 2003, followed by a protracted and increasingly unwelcome occupation which in the end was a fiasco.

And indeed, the South African forces which entered Zimbabwe in 2017 were still there ten years later, and they were wearing out their welcome. Armed resistance against them was rising. The South Africans installed Eddie Cross, a leader of the opposition Party *MDC (Movement for Democratic Change)* as Prime Minister. At first, he was very popular. However, by 2028 the South African and Zimbabwean governments began to discuss the possibility of a "union" between the two countries.

This happened on the heels of the discovery of vast diamond deposits near the town of Gweru. South Africa's motives were seen by many as suspect, the so-called union was seen as a quasi-annexation, and Cross was seen as a collaborator. Two years later, he was assassinated. Thousands of Zimbabweans took up arms against the South African "peace-keeping" forces.

Far from backing down, Johannesburg sent reinforcements across the border, as it proceeded with plans for the total merger of the two countries. Thus was the stage set for one more protracted conflict in Southern Africa, with no end in sight.

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What made bloody wars in Africa particularly tragic was that they piled suffering on top of the already immense AIDS crisis:

The Continent's population peaked at 1.2 billion in 2017, whereupon it began to decline. By mid-century, it was down to 900 million, despite the fact that its birthrate remained the highest in the world. During the first two decades of the century, the Continent's depopulation was primarily the result of AIDS. Worst hit by the plague was the Southern part of the continent. For example, South Africa's population peaked at 60 million in 2017. By 2032, it had been reduced to 54 million, and it continued to decline after that. The scenario was the same in Botswana, Mozambique, Namibia, Zimbabwe and elsewhere.

Later in the century, the major cause of African depopulation was starvation, which in turn was the consequence of global warming and of the desertification of hundreds of thousands of square miles of agricultural land. This problem occurred most devastatingly in countries close to the *Sahel* - the semi-arid region separating the Sahara from the savannas and forests to the South.

7. The Global Scene; Other major events: During the 2nd decade of the 21st century, the condition which affected the world most deeply was the energy-environment problem, aggravated by continued population growth: Due to its continued reliance on fossil fuel, the world continued to destroy itself.

Unfortunately, the process was gradual. The situation was most aptly described by the frog metaphor - were a frog tossed into boiling water, it might jump to safety, but not so if it is placed in water which is heated up gradually. Similarly, the supply of fossil fuel shrank and its cost rose only *gradually*, and the temperature of the world rose only slowly, as did the world's population. Thus, mankind did not experience the shock of sudden crisis which would have energized it into radical and concerted action. Instead, it remained obstinately addicted to oil, to private transportation, and to too many babies.

2015, 2017 and 2020 were all the warmest years on record. The Sahara was expanding into the Sahel faster than ever, desertifying huge chunks of Africa. More and more coastal lowlands disappeared into the ocean (parts of Louisiana, some Polynesian islands), or were threatening to do so (the Netherlands).

Forest fires burnt out of control from California to the European Rivièras. In 2025, The price of crude oil reached \$450 a barrel, most of the money going into the pockets of billionaire Middle-Eastern sheiks, American oil executives and authoritarian Russian rulers. In 2018, the world's population passed 8 billion - *four* times what it had been at the end of World War II. China, with over one and a third billion people, was still number one and ahead of India, (which had one and a quarter billion people), but not for long.

The contributions of the various continents to the problem varied: Until about 2020, America remained the bogeyman in many people's eyes, because its per capita energy consumption and automobile ownership remained the highest in the world. The Europeans, to their credit, were making valiant efforts to curtail private car use and to maximize alternative energies such as wind and solar power.

However, in the following decades it became clear that a much greater threat to the planet's survival was the growing contribution made to global warming and pollution by the new giants - China, India and other emerging economies such as Brazil and Indonesia: The combined population of China and India alone was ten times larger than that of the United States. By 2030, the car ownership rate in these countries was still only one tenth that of America's, yet their combined contribution to carbon dioxide and global warming was already *more than twice* that of the United States, and this was before taking into account industrial waste. China had already surpassed the United States as the world's number one polluter twenty years earlier.

The international community had terrible trouble coming to concerted action. After much haggling, Kyoto II was signed by 186 countries in 2027. The key stumbling block and the main reason for the refusal of the United States, Australia and others to sign on to Kyoto I had been how to handle China, India and other developing countries. The Europeans had been willing to exclude these countries from the requirements of an environmental treaty. While America was willing to go along with respect to Africa and other countries in dire need, it objected to granting China and India preferential treatment. After all, it argued plausibly, those two countries were already thriving economic giants. China's economy, in particular, had been growing astronomically. Why would the largest economy be treated preferentially? Together, China and India represented over one third the world's population. Millions of jobs had already been exported to them. It was only fair to hold them to the same standards as the rest of the world - so President Hilary Clinton argued in her speech to the United Nations.

The compromise which finally enabled the world to come together on the second Kyoto Protocol was to grant China, India and some other countries special treatment *for a limited amount of time*. All special dispensations were to expire in 2049. Thereafter, the all Kyoto requirements applied uniformly to everyone.

3. 2052-2150; THE NORTH AMERICAN UNION

As we saw in Chapter Two, the *North American Union (NAU)* first came into being as an economic entity under the *Treaty of San Antonio* in 2043. Then, less than ten years later, it was followed by the total political unification of Canada, the US and Mexico. The present chapter therefore takes its departure in 2052, the year when the NAU officially became one nation state.

1. The Economy and the Energy Supply: During the second half of the 21st century, many

of the problems which emerged during the first half of the century became permanent conditions. They put a heavy and lasting imprint on the lives of the North American people.

Energy remained the single most essential issue. As noted earlier, world petroleum production peaked in 2020 at 95 million barrels a day, it stagnated at that level until 2025, and then it began to decline, reaching 60 million barrels a day during the 2050s. The multinational oil corporations diversified into alternative energies, particularly coal and nuclear. Their ownership passed more and more into foreign hands, especially those of China and the Middle East.

For the North American Union, this was both good and bad: Like the rest of the world, the NAU was forced to use and to import less oil. However, two factors continued to raise the oil bill nevertheless: (1), each year the NAU imported a greater percentage of the oil it consumed, finally ending up importing practically *all* of it by the end of the century. Furthermore, the scarcity of black gold inevitably caused its price to rise - to ☀180 (**Solars**) a barrel by 2055. Thus, the total cost of oil imported by the NAU at that time was nearly two trillion solars. This represented half of the Union's total imports, and it caused a ☀2 trillion trade deficit.

By then, the NAU managed to export ☀3 trillions of goods and services, a healthy 250% increase over the past 40 years. Had it not been for the exorbitant oil bill, the Union's imports and exports would have been nearly in balance. As it was, however, North Americans continued to sink deeper into debt and into poverty, transferring the last remnants of their belongings to the pockets of Saudis, Kuwaitians, Qataris, Dubaians, Venezuelans, and others who lived where the remaining oil was located, and to China, Japan, the European Union and others to whom they were so deeply indebted.

By the 2050s, there was a veritable fire sale of United States property going on. Investors in oil rich countries and other creditor countries bought up resorts (Disney World, Knott's Berry Farm), Golf courses (Pebble Beach, Augusta), harbors (Long Beach, Baltimore), skyscrapers (the Empire State Building, the Sears Building) and assorted other monuments and landmarks (the Golden Gate Bridge, the Brooklyn Bridge, Sutter's Fort).

Oil transactions were no longer conducted in North American dollars. In 2053, the world introduced a new monetary unit - the **Solar** (☀). Its value was pegged to that of a basket of national currencies, including the Dollar, the Euro, the Yen, the Yuan (Renminbi) and the Riyal.

From the 2020s on, the Euro had increasingly eclipsed the Dollar as the preferred international currency. However, the Europeans were no better as stewards of the world economy than the United States had been, letting their national self-interest (deficit spending) override global interests. Thus, the United Nations' Commission on Global Economics proposed the new international currency the Solar, and this was approved unanimously by the Security Council in 2052. From then on, the Solar gradually overtook the Euro as the world's primary exchange and reserve currency.

After that, the Dollar suffered further devaluation. This was the time-tested remedy which countries use to renege on their debts and their international obligations. What better way was there for the NAU to repay its dozens of trillions of dollars of debt than to devalue its

currency to one twentieth of its former value - as had been done for centuries by Argentina, Mexico, Brazil and every other Third World country which had gotten into similar trouble?

In 2020 the value of the US Dollar was still almost half that of the Euro. Thirty two years later, when the Solar was introduced, the dollar was worth one tenth of the Euro. By 2060, the dollar was worth one twentieth of a Euro, one Chinese Yuan and 1 Japanese Yen, i.e. *one eightieth* of its value at the beginning of the century.

However, the Euro was over-valued against most currencies, including the Solar. One Solar was worth half a Euro, and 10 dollars. Thus, American buying power was still declining (translate: Americans were getting poorer) while the Europeans priced themselves out of the world market.

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As the massive transfer of wealth continued, cities such as Dubai and Riyadh were erecting rotating skyscrapers, artificial ski resorts inside giant plexiglass domes, 3000-foot tall towers and hotels with ☀2,000 a night rooms. The obscene wealth which was being accumulated by some at the expense of others was not even being put to good use.

North Americans believed that the Canadian tar sands in Alberta were their ace in the hole. And indeed, once the price of oil reached ☀180 a barrel, it became cost-effective to begin extracting oil from those sands, which were said to give Canada the world's second greatest oil reserves. However, the process was extremely destructive of the environment.

On the plus side, development of the tar sands reduced the Union's foreign dependence somewhat.

China's PetroChina and Sinopec, and Eurabia's Centrica were the three largest energy companies engaged in the development of the Albertan tar sands. They were joined by half a dozen other companies, primarily from the Middle East and India. Between 2055 and 2128, these companies reaped massive profits, as the price of all forms of energy soared. These multinationals' boards of directors and major investors included some NAU citizens, who were also fabulously rich. For a majority of North Americans, the chief benefit of the Canadian energy boom of the late 21st and early 22nd centuries was the growth of subsidiary local industries, for example transportation, pipeline construction and refineries, which created hundreds of thousands of jobs. Alberta became the wealthiest North American province.

At the same time, the search for and use of an ever diminishing supply of oil and natural gas became more and more feverish.

After having plundered the Alaskan tundra and all of America's coastal waters, after having tapped the last remnants of crude oil to be found in every wilderness and every country on earth, the search veered into an even more desperate direction: Why not tap the oil beneath America's cities? After all, oil is not only found in deserts and underneath the permafrost. What about the hundreds of thousands of square miles covered by metropolitan real estate, i.e. by buildings, houses and backyards?

If there is oil underneath Long Beach, maybe there is also some beneath New York or

Chicago. During the second half of the century, even suburban backyards and central city parks and playgrounds became dotted with derricks and pump jacks. Oil was being collected from the Tar Pits of La Brea in Los Angeles, from Central Park in New York City, Golden Gate Park in San Francisco and from every other urban place where it could be found.

But there was less and less black gold to be found, no matter what. In 2010, known world reserves had been estimated at 1300 billion barrels, i.e. enough for 37 years at current consumption levels. However, world consumption continued to increase thereafter, due to giant newcomers such as China and India. To be sure, new deposits were discovered as well, albeit in diminishing amounts. The upshot was that by mid-century, known reserves would only last another 15 years.

Humanity was not so dumb as to ignore this. The gradual shift to alternatives might not have been expeditious, but it *was* underway. It had been going on for at least half a century - at first haltingly and very inadequately, then a bit more effectively, as societies realized that civilization's survival was at stake.

One essential area in which energy decisions had to be made quickly, was transportation. Many of the decisions were self-evident, requiring only collective will: For example, switching *massively* from private to public transportation, and changing to non-gasoline propelled vehicles.

And indeed, the people did what was necessary: By the 2nd half of century, lifestyle and consumption patterns were changing dramatically. In the streets of North America, there were now more motorbikes, scooters, mopeds and bicycles than cars. Most cars were hybrids or fully electric, and they were small, including many two-seaters. American cities looked like Bangkok and Shanghai had looked during the 1970s, except that traffic was less chaotic.

The government attempted to regulate oil consumption. In 1962, Congress passed the ***Petroleum Distribution Act***. This was a gasoline rationing system. The agency in charge of administering it was the ***Federal Energy Allocation Resource - FEAR***. Allotments were determined by age and occupation. In order to qualify for a gas card, one had to be a citizen and at least 26 years old. There were five categories of recipients, prioritized as follows:

- 1) Category One - top priority (e.g. law enforcement, firemen, military, physicians): 14 gallons per month
- 2) Category Two - priority (e.g. teachers, misc. repair services, ITs, etc.): 9 gallons
- 3) Other full-time workers: 7 gallons
- 4) Part-time workers: 5 gallons
- 5) retired or unemployed: 3 gallons

The Federal CAFE requirements (Corporate Average Fuel Economy) were strengthened, so that a minimum mileage of 95 mpg was required of all cars, while many did considerably better than that. By 2011, *average* mileage for all cars sold within the NAU improved to 130 mpg. Hybrids remained popular, including Toyota's venerable *Prius*, still one of the best-sellers, and Honda's new *Target*, which achieved an impressive 163 mpg on the highway. In addition,

Mercedes introduced a new fully electric *Smart* car which only required internal combustion for ignition and back-up. In 2067, Norway introduced the new *Pivco*, which did away with fossil fuel altogether. In 2071, the giant Indian car manufacturer *Hindustan* introduced a steam-powered automobile.

The gas rationing system was enforced by the Federal Energy Allocation Resource - whose acronym was apt, as it could slap hefty criminal penalties on cheaters.

Gas cards belonged to the individual - tied to one's Social Security Number. Commerce in gasoline and in gasoline cards was illegal, as buying and selling cards made them into the equivalent of cash, i.e. meaningless. Gas cheating was a felony, but it was rampant. Buying, selling and trading gas cards occurred both openly and on the black market. Organized crime was heavily involved in gas crimes.

But what debilitated the PDA more than anything else was the enormous loopholes which Congress made sure to insert into the legislation: People able to demonstrate hardship, and the managers of businesses serving over 50 people, were all exempt from rationing.

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As to the problems of air travel, they were shared by the entire world, and I will return to them in the final section of this chapter. While the entire world experienced a decline in air traffic, nowhere else was the drop as steep as within the NAU. In the half century following 2010, domestic air traffic in North America declined by 12% - from 740 million passengers to 650 million, even though the population nearly doubled. The problems of air travel had been accumulating at least since 9-11. They included (1) the quality of service, (2) security and (3) cost.

(1) The deterioration of services was first caused by the relentless growth of air travel at the beginning of the 21st century. With more and more baggage being transported, most of it got lost. With more and more flights scheduled, most of them were late, got canceled or got rescheduled. The number of flights arriving and departing from airports had grown so large that as each day progressed, flights were delayed further and further - just as each patient waiting to see a doctor in his office has to wait longer as the day moves on.

(2) After 9-11, Homeland Security and the National Transportation Safety Board never fully managed to set up an efficient, streamlined and permanent security system. The authorities continued to introduce and then often withdraw security measures, experimenting with some rule for a year or two and then canceling it, for a while demanding that all passengers take off their shoes, or submit to an oral quiz, or a full-body scan, or partially disrobe, or refrain from carrying toothpaste, then no longer requiring this, only to re-introduce the requirement - or a new one - the following year. It could be argued that such a bobbing-and-weaving strategy by Homeland Security was aimed at keeping the bad guys guessing, and it did achieve its purpose: airplane highjackings became extremely rare. However, this was also one of the reasons why air travel became an ordeal to most passengers.

(3) What hurt air travel the most was out-of-control cost. Both passengers and the airline industry could have taken bad service and frustrating security procedures in stride, but when the price of fuel - and hence that of tickets - reached the stratosphere, the very viability of air travel became a question mark..

Recall that after all major domestic companies went into bankruptcy (*Southwest* was the last one to die), the federal government consolidated the airlines into a national company called *Amair*, modeled after *Amtrak*. This happened in 2036. During the half century following this, the airline never made a profit, always operated at a loss, which was made up by the government. Year after year ticket prices went up. Year after year smaller airports were shut down and flights to secondary cities were canceled. In order to fly, Sacramentans had to first drive to San Francisco. The people of Kalamazoo, Michigan, and Madison, Wisconsin, had to drive to Chicago's O'Hare Airport. Travelers from Harrisburg had to fly out of Philadelphia. And so forth.

By the late 21st century, the average North American flew only one third as often as his great-grand-parents had. And because surface travel was equally expensive, the vaunted mobility of North Americans became something of the past.

Not only was air travel becoming prohibitively expensive for most Americans, but its very existence was in jeopardy, as the supply of petroleum dwindled. What would happen to air travel once the world ran out of oil? Alternative modes of air propulsion (nuclear?) were still far in the future.

For the time being, the best that could be done was to ensure that airlines be at the front of the gas rationing line. After all, air transportation remained society's lifeblood. The *Petroleum Distribution Act* of 2062, in addition to creating the afore-mentioned rationing system, also required *Amair* and the military to turn in their annual allocation requests, which were to be fully met from the Strategic Petroleum Reserve, *first*. The rationing and distribution process to everyone else - plants and individuals - commenced thereafter, and it was based on remaining availability.

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As to industry and public services, they relied increasingly on alternative fuels. Which source of energy made the most sense in any given part of the world, depended largely on geography. For example, Spanish America (see below, for the NAU's eight new administrative regions) came to rely increasingly on solar power.

English America built countless windmills. During the 2070s, University of Oklahoma Professor Tom Dillinger worked on a method to harness the energy of tornadoes. To that end, he developed a mobile, vacuum-activated vehicle which became popularly known as the twister-buster. Unfortunately, he died in the process of testing his invention. He was last seen in his enormous vehicle in the vicinity of *Cherokee*. His body was never found, and with him vanished also all efforts to put tornado energy to good use.

However, many other new technologies were being experimented with. Atlantic America focused more on tidal power and on wave power. Researchers at MIT worked together with the Department of Hydraulics at the University of Delft in the Netherlands to develop ways to control and harness those sources of energy. The Chesapeake Bay was the ideal natural

laboratory to test a variety of new techniques.

But no matter how clean and promising some of the new technologies seemed to be, the country was so massively starved for energy that it could not help but fall back on the two old stand-byes - coal and nuclear. After all, these were the two sources which had a proven track record, and where supply was not a problem. Society had no choice but to sweep aside the serious problems associated with these two forms of energy.

The facts had been debated and known for a century: Nuclear power produced radioactive waste material for which there was no adequate long-term disposal, and it killed modern man through cancer and through a variety of other ailments which did not exist before the nuclear age. Coal causes immense pollution of air, water and other parts of the environment. So be it. De-industrialization was not an option. By the beginning of the 22nd century, the NAU had 300 active nuclear power plants, and coal accounted for one third of its energy needs.

Nuclear power provided the bulk of the nation's electricity, while coal was used in factories and for transportation. The coal-powered steam locomotive made a come-back, largely replacing diesel engines to pull both Amtrak's passengers and its freight trains.

Society and government tried to confront the damage to public health and to the environment caused by the massive reliance on coal and on nuclear power. During the latter part of the century, more and more jurisdictions passed laws requiring everyone to (1) wear a gas mask whenever outside, and (2) to undergo radioactivity testing once a year.

In 2095, the federal government passed the *Uniform Public Health Mandate*, refining those two requirements and making them mandatory for the entire NAU population. This was a great victory for the Brussels-based UBP Group. This multinational mask manufacturer had lobbied the NAU government for decades for such legislation, and it had generously rewarded the American Medical Association for its support.

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During the second half of the 21st century, North Americans worked ever longer hours, even as their standard of living continued to decline. Until the middle of the century, the world economy had become increasingly integrated ("globalized"). However, from the 2050s on and into the 22nd century, the trend shifted in the opposite direction - fragmentation. While the first of these trends resulted in a massive transfer of North-American wealth to other parts of the world, the reversal of that trend reduced international trade and thus also contributed to the general impoverishment of the population.

In 2070, annual per capita income in the NAU was \$240,000. In 2010 inflation-adjusted dollars. This was only \$20,000, i.e. \$6,000 less than Mexican per capita income had been just before the creation of NAU in 2052.

Of course, there was great regional variation: The Canadian Midwest benefitted from the windfall of the oil-rich Alberta tar sands. On the other hand, the deindustrialization of Michigan, Indiana, Ohio and Illinois had been completed. Michigan produced its last car in 2051, when GAAC (the General American Automobile Company) closed its doors in North America and moved its headquarters to Mumbai. The company's majority shareholders had been Indian for

several decades. By the 2070s, the area - America's rust belt - was the third poorest region in all of North America, only surpassed by Yucatan and Chiapas. Per capita income in Michigan was lower than in South Africa. Detroit was a ghost town overgrown with vegetation, where wolves, deer and bears roamed at will.

The federal and the provincial governments of English America tried to mitigate regional disparities. During the second half of the century, some funds began to flow from affluent Canadian provinces to the old American Midwest. As a result, there were rumblings of discontent among Canadians, and a budding separatist movement.

During the 2090s, French America added its voice to the protest and the discontent of the Canadian Midwest, further threatening the cohesion of the NAU. French Canada consisted largely of the former province of Quebec, and it was also one of the NAU's most affluent provinces. By the end of the century, it returned to an old habit - talk of secession, or at least of greater autonomy.

Given the enormous role of multinational corporations in the economy of the North American Union, redistributive schemes never went far. The plutocracy made sure of this. For example, corporate money was behind much of the successful campaign which stoked the flames of secessionism in Canada during the 2nd half of the 21st century. This put a quick end to the federal government's effort to assist in the re-development of the old US Midwest - now one of the poorest regions of the world.

Among the eight administrative regions created with the advent of the NAU in 2052 (see following section), the South was also relatively prosperous. New Orleans, the federal capital, was booming, and the Gulf Coast benefitted from a thriving tourism, gambling and sex industry, many of them owned by large multinationals such as Phillip Morris and Macau Victory. Florida, as the world's gay center (see section #7, below), also enjoyed a booming economy.

NAU's two Hispanic provinces - Mexico and Spanish America - produced the bulk of the country's crops. The most lucrative cash crop was marijuana, which, once legalized, became the functional equivalent of what tobacco had been for such states as Kentucky, Tennessee, Virginia and the Carolinas in the 20th century. It was the region's lifeblood, by far its greatest export product and its greatest employer. From Jalisco to California and from Veracruz to Texas, millions depended on the marijuana industry for their schools, their roads, their bridges, their hospitals and their prisons. By the end of the century, the combined marijuana crop of Mexico and Spanish America was worth over a trillion solars. Of this, over half was exported, most of it to Eurabia, thereby helping to reduce the NAU's perennial trade deficit.

Four companies controlled most of the NAU's marijuana production: Phillip Morris, R.J. Reynolds, Mexico's Grupo Carso and China's Macau Victory. These companies were indispensable to the NAU's maintenance of at least some semblance of an international trade balance. This gave them great leverage over federal policy. For example, Phillip Morris prevailed upon the government in 2147 to abort its nuclear airplane program, which would have increased international travel among North Americans, and reduced attendance at the company's large domestic leisure and probing (=gambling) centers.

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Although there were sharp regional income differences, they paled in comparison with individual disparities. Ever since the last two decades of the 20th century, Americans' income had become increasingly polarized. The New Progressive Era, which lasted from 2009 to 2033 and was a response to the Great World Depression, put a temporary halt to this. However, from mid-century onwards, the chasm between the rich and the poor once again began to widen. This was a great disappointment to those who hoped that the creation of the NAU would bring prosperity to all. Instead, as the NAU's general standard of living declined, wealth was increasingly concentrated in fewer hands. Billionaires could be found in nearly all sectors, including business, entertainment, popular culture, professional sports, the media, universities and public administration. However, the greatest fortunes were made by commodities billionaires, (oil, marijuana), entertainment moguls (sex resorts, sex outlets, gambling resorts) and the owners and managers of financial services.

2. Domestic Politics: At the time of its founding in 2052, The NAU was modeled after the European Union. Henceforth, citizens of the United States, Mexico and Canada shared one nationality and one passport. National borders between the three countries were abolished. The dollar remained the national currency, now called the NAU dollar rather than the US dollar or the Canadian dollar.

The merger of the three countries created a nation of 650 million people, with the third largest Gross Domestic Product in the world (after China and Europe).

The greatest challenge was not the integration of the three economies. International trade and treaties such as NAFTA had already achieved most of that. The more daunting task was administrative. To that end, the US Congress, the Canadian Parliament and the Mexican Congress created a joint Committee charged with the development of a blueprint for the governance of the NAU.

The new Union required, as Europe had half a century earlier, a new constitution, a joint parliament, a mutually acceptable capital city, and a whole new structure of jurisdictions to replace the fifty US states, the thirteen Canadian provinces and territories, and the thirty-one Mexican states. It took the task force and the politicians ten years of haggling, but by 2062, the result was final. It is shown in table One.

Table One: The North American Union

Name of District	Formerly	Official primary language	Capital
1. Atlantic America	New Brunswick, Newfoundland/Labrador, Nova Scotia, Prince Edward Island Conn., Del., Maine, Md., Mass., NH, NJ, NY, Pa., RI, Vermont	English	Plymouth
2. English America	Alberta, British Columbia, Manitoba, Ontario, Saskatchewan Colo., Idaho, Ill., Ind., Iowa, Kansas, Mich., Minn., Mont., Neb., Nev., ND, Ohio, Ore, SD, Utah, Wash, Wis., Wyo.	English	Pierre
3. French America	Quebec "Acadia" (parts of Maine and Vermont)	French	Trois Rivières
4. Mexico	Mexico	Spanish	Mexico City

5. The North	Northwest Territories, Nunavut, Yukon, Alaska	English	Homer
6. The South	Ala., Ark., Fla., Ga., Ky, La, Miss, MO, NC, Okla., SC, Tenn., Va, W Va,	English	Richmond
7. Spanish America	Ariz. Cal., NM., Tex.	Spanish	Santa Fe
8. Autonomous	Hawaii, Puerto Rico, Virgin Islands, Am. Samoa, etc.	Misc.	Misc.
9. National Capital	New Orleans	English, Spanish, Fr.	New Orleans

The seven district capitals came “on line” at different times, as most of them were small towns, newly chosen and ill prepared to become the administrative hubs of large regions. The last regional capital to go into the business of running a vast area was Pierre, formerly the capital of South Dakota. This happened in 2081.

New Orleans was chosen as the NAU’s national capital, because of its central location and its diverse and multi-lingual history. An additional benefit was the economic boost which the establishment of a national government would bring to a depressed city and a depressed region. The city began to function as the national capital within two years of the ratification of the new constitution, i.e. in 2064.

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In the United States, there had been three major political parties since 2036 - the Democrats, the GreenPeace Party, and the Republicans. During the following two decades, the Republicans became ever weaker, while the GreenPeace Party was not yet full-grown. Thus for a long time the Democratic Party had a lock on American politics, at least in the former United States. This was not unlike the hegemonic power of the PRI (the Institutional Revolutionary Party) in Mexico throughout much of the 20th century.

After the creation of the NAU in 2052, the Democrats maintained control of the new enlarged government until 2064. Until that year, all Presidents were Democrats, and the party also kept a congressional majority in both houses. By the end of the 21st century, the political party structure which had emerged was as follows:

(1) Mexico’s PRI and the US Democratic Party had merged to form the ***American Democratic Union (ADU)***, one of the two large left-of-center social-democratic parties.

(2) To its left was the ***Green peace Party***, which had grown stronger every decade and which represented the younger and more radical generations.

(3) For some reason, Canada’s ***Liberal Party*** did not participate in the ADU merger, even though it almost invariably sided with that party.

The right was initially more splintered, but in the end much more successful:

(4) Mexico’s ***National Action Party (PAN)*** remained a small but energetic voice for business.

(5) Canada’s ***Conservative Party*** gradually grew into the most formidable, nationwide, mouthpiece for corporate interests. By the beginning of the 22nd century, it possessed vast

resources through which it could influence public opinion and score ever greater electoral victories.

During the 2110s and 2120s, the party's co-chairs were Dr. Jonathan Moulineaux, and the Chinese-born Ms. Biyu Liang. The two of them shuttled back and forth between the capitals of the *Asian Co-Prosperity Alliance (ACPA)* - Beijing and Kyoto - Eurabia's major centers (Brussels, Geneva) and Party headquarters in Pierre. They were also on the board of NAU's Chamber of Commerce and on the executive committee of the Securities and Exchange Commission. They were just one example of the many forces which made sure that, for the people of North America, corporate capitalism was accepted as the natural way of society, of its work, of its economy and of its relationships.

(6) As to the old US *Republican Party*, by the end of the century it barely held on to a dozen congressional seats, representing mostly a few highly religious districts in the South.

(7) In addition, there was a *Party Québécois*.

The NAU Congress began to meet in New Orleans in 2064. It bore a much greater resemblance to the United Nations, or to the Swiss Parliament in Berne, than to the old US Congress. Representatives were seated by region, and deliberations were in three languages, with simultaneous translation.

That same year, the NAU elected its first Green Peace Party President. This was the first time in over two hundred years that the President was neither a Republican nor a Democrat. The new President was Judith Bean, an environmental lawyer who had been a Senator from Atlantic America since the founding of the NAU.

President Bean's Presidency began in an atmosphere of great euphoria. Although the Democrats, the Mexican PRI and the Canadian Liberal Party had supported competing candidates, these parties all rallied to Bean's support after the election. After all, the corporate power brokers reasoned, the President is largely a figure head, and she could easily be controlled behind the scene. Thus, Bean enjoyed the support of an unbeatable super-majority, both among the electorate and in Congress.

However, as the years progressed, the Left-Center coalition showed deeper and deeper fissures. For one thing, the environmental interests of the North and of the Northeast did not coincide with those of Spanish America, a region where the PRI was making major inroads. Then, too, the linguistic and cultural divide in North America made Mexico and Spanish America natural allies.

It is against this backdrop that the PRI and the old American Democratic Party merged in 2082 to form the American Democratic Union. This became the second largest party in the country.

By the end of the 21st century, ethnic groups were no longer as clearly definable as they had been a century earlier, as *mixed ethnic descent* was the preferred identity choice of three quarters of the population.

However, linguistic communities were as distinct (and at times as hostile) as ever. Those whose primary language was Spanish had an enormous sense of community with one another, and this translated into growing unity and political power. Language had replaced skin color as

both the strongest unifying *and* divisive social force. Hispanics flocked in ever larger numbers to the ADU, and away from Green Peace, which they viewed as elitist, whose environmental concerns were not their highest priority, and whose population policies (a low birthrate and limited immigration) they downright rejected. Thus, Green Peace became increasingly an “Anglo” party - meaning English speaking but also enjoying the support a majority of Americans of Sub-Saharan descent.

By the turn of the 22nd century, the three largest parties were (1) the Conservative Party, (2) the ADU, representing 68% of the Spanish-speaking population in addition to millions of non-Spanish speaking workers, and (3) Green Peace, supported primarily by the better educated, English-speaking middle class. The competition for the NAU Presidency between these three parties was fierce. They could not come to an agreement. The three parties on the right were attempting to arrive at a consensual candidate. These parties were (1) the old Mexican PAN, which enjoyed strong support in Spanish America (notably California), (2) the Conservatives, who had branched out from Canada and (3) the GOP, which had become a small regional party representing the South.

Faced with the possibility that the three parties on the right might nominate and elect a consensual presidential candidate, the ADU and Green Peace reached a compromise: They nominated the Québécois Michel Lefebvre, who won a landslide victory in the year 2100.

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As just mentioned, the two large left-of-center parties - the ADU and Green Peace - disagreed about demographic policy: During the second half of the 21st century, the NAU's population began to decline (it peaked in 2074). The reasons for this - including the deterioration of public health and of the standard of living - are discussed below. Here, I describe the political response to the demographic crisis of the late 21st century:

Greenpeace and some of its constituency did not see population decline as a problem. In fact, many of them welcomed it. On the other hand, the ADU represented millions of North Americans - both Hispanics and others - with pro-natalist values.

The conservative parties also favored population growth, albeit for different reasons. They were concerned about the looming labor shortage, and they also favored a large population from a sense of nationalism. Thus, even though the ADU and the conservatives' motives differed, they became political bedfellows - at least with regard to the population question. They favored population *growth*, and they launched a variety of *pro growth* policies. By the late 21st century, “*pro growth*” was a term understood by all to refer to population growth.

The coalition of ADU and conservatives was unbeatable. This congressional supermajority was able to pass a great deal of pro-growth legislation. The tax code was revamped so as to strongly encourage multiple births and adoptions and, conversely, to penalize childlessness. In addition, AFDC (Aid to Families with Dependent Children) was reintroduced, in a new and stronger version. A single mother with three children received sufficient federal assistance to be able to forego a job and live comfortably.

The financial encouragement of multiple births and adoptions was unrelated to other family policies - for example marriage: Only 6% of all children were born to married

heterosexual couples. Children were born and raised in a variety of settings, including single parents, unwed couples, extended families and gay parents. Nearly a quarter of all babies were conceived in vitro. The strong financial incentives to encourage adoption were especially aimed at gays, millions of whom took advantage of them. A couple - gay or heterosexual - that adopted four children qualified for sufficient public assistance to make a job for either parent unnecessary.

The NAU Supreme Court had relegated the abortion issue to the local districts. There was no national or constitutional legislation, but district-by district variation. For example, Atlantic America permitted abortions on a limited basis, while the South forbade it in all its forms.

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In general, governance became increasingly ossified, inefficient, and starved for resources. The inefficiency was aggravated by corruption and incompetence. Governmental regulations grew unwieldy and complex. For centuries, laws, commissions, agencies, branches, offices, boards, and programs had been *added*, never deleted or replaced. By the 22nd century, the edifice was crumbling.

The two social service sectors which had experienced the most astronomical growth were (1) the criminal justice system and (2) the health care system, including mental health. It was not uncommon for the State to spend one or two million dollars *per month* to warehouse *one* state prisoner, including his legal and medical bills.

Death row inmates were the most expensive inmates. The NAU Supreme Court had also relegated the question of capital punishment to the local districts. For example, the South continued to execute inmates, while Atlantic America had abolished executions long ago.

Whether on death row or not, thousands of prisoners were being treated for cancer, hepatitis, AIDS and other life-threatening illnesses, with the State spending *hundreds of billions* on this.

Mental illness and its treatment blossomed into the full equivalent of physical illness. By the beginning of the 22nd century, the nation spent 35% of its Gross Domestic Product on health care, only half of it on the prevention, cure and treatment of physical illness, the other half on the prevention, cure and treatment of mental illness.

Neither the country nor the government ever got out the deficit mode. Overspending and borrowing became the permanent condition. How was it handled?

One, the dollar was repeatedly devalued against the Renminbi, the Euro, the Solar and other currencies, resulting in a great reduction in the value of the debt owed to ACPA and to other foreign entities.

Two, the US and its successor, the NAU, “rescheduled” their debt on several occasions (notably in 2051 and 2123) - a process tantamount to default, but accepted by the creditors as the lesser of two evils.

Three, there were repeated attempts at raising taxes. However, this only caused an ever larger segment of the national economy to go “black.” By 2140, 65% of the NAU’s economy was underground, a situation comparable to that of countries like Greece and Italy in the early 21st century.

Even so, the proportion of the federal budget devoted to debt financing kept growing. By

the middle of the 22nd century, it was roughly half. That is, half of the money collected from the taxpayers and spent by the government provided services and other things of value, while the other half consisted of finance charges.

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Crime: As the culture and the norms changed, so did society's views about crime and deviance. Many activities which had previously been classified as crimes became legal, whereas several formerly legal practices now became criminalized.

A case in point was smoking tobacco vs. marijuana. By the beginning of the 22nd century, most districts made tobacco smoking a misdemeanor (in a few districts it was a felony), whereas marijuana was legalized nationwide during the seventies under the *Uniform Cannabis Authorization Act*. The legalization of marijuana brought great economic benefits to the province of Spanish America. That province produced 2/3 of the world's marijuana, and its annual exports of that commodity to Eurabia and to China and the rest of ACPA was worth 120 billion Solars.

Full legalization of marijuana occurred after a campaign by the American Cancer Society and the Center for Disease Control pointing out its medical benefits.

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A *moral entrepreneur* is someone who (1) singles out a behavior practiced by a significant number of people, (2) identifies that behavior's allegedly harmful or immoral aspects, and (3) advocates legislation to regulate, forbid and punish it.

Moral entrepreneurs launch social and political movements. Their efforts result in *new laws*, which create *new crimes* and *new job opportunities* in the fields of *social control*. During the 22nd century, the number of professionals employed in criminal justice and in the helping professions increased tenfold.

In the 22nd centuries, the two most fertile grounds for moral entrepreneurship were the *environment* and *public health*. It is in these areas that the largest number of new laws and new crimes were created.

For example, coal returned as North America's greatest source of energy, and this led to a great increase in air pollution. In order to mitigate the resultant health hazards, it became mandatory for everyone to wear a gas mask whenever venturing outside. Government-approved respirators were dispensed to households. Parents and guardians were held responsible if their children failed to comply with this law. The penalties included fines and jail time.

Nuclear power also made a come-back and this, too, presented new health hazards. A law was passed in 2084, requiring universal annual testing for radiation exposure. Several new antigens were developed to slow down the effects of irradiation. Anyone scoring above a certain threshold on the irradiation test had to take medication.

By the end of the 21st century, one of the greatest threats to the North American Union's survival was water scarcity, especially in Spanish America. Water rationing became an accepted fact of life, and penalties for water crimes became more and more draconian. They included long prison terms. This did not prevent the emergence of a vast black market in water,

controlled by organized syndicates.

Meanwhile, the supply of oil continued to dwindle. This, too, had a great impact on society's laws. Gas-guzzling vehicles were outlawed, and car ownership was regulated: Nobody was permitted to own more than one vehicle, and only employed citizens had the right to own a car. At retirement, one handed over ownership of one's car. Minimum driving age was raised to 25.

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There were also many new food laws and food crimes: By the middle of 22nd century, a majority of the NAU people were *vegetarians*.

The list of food crimes began with the prohibition against eating endangered species, for example salmon, squid and tuna. During the second half of the 21st century, this list expanded, but the consumption of non-threatened species such as carp and trout remained legal, as was the consumption of beef.

Shortly after the turn of the 22nd century, recreational fishing was outlawed. The ban on hunting was gradual, beginning with bear hunting in the 2050s, then deer hunting, and finally all other forms of hunting, including quail, pheasants, birds and fowl. By the 2150s, the federal government had outlawed the consumption of most meats, fish, and other animal life.

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Another category of crimes which continued to expand was that of *financial crimes*. Great efforts were made by the justice system to monitor the activities of major businesspeople and prominent citizens, most of whom went to prison occasionally. Bankers, investment brokers, CEOs, celebrities, movies stars, famous athletes all joked in gallows' humor that an occasional stint behind bars was part of the doing business.

During the 22nd century, incarceration became so *randomized* across the socio-economic spectrum that it lost its stigma. Sociologists spoke of the *Martha Stewart syndrome*, referring to the fact that it was perfectly acceptable for a major corporate executive to do a prison term, and then to return to business as usual.

Furthermore, the *widening nets* of the criminal justice system also captured more and more middle-class people, as jail and prison time became the default penalty for a host of common crimes such as DUI, speeding, smoking, meat eating and environmental crimes. Even kind, church-going, seventy-year old aunt Mabel might end up in County jail for three months for some infraction, and she and her family would laugh it off.

Punishment became truly *democratized*. The criminal justice system was no longer the bourgeoisie's tool for the control of the lower class. It became blind to the color of skin *and* money.

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Criminalization was only part of the story. This was counterbalanced by some *de-criminalization*. This occurred primarily in the areas of leisure, lifestyle and sexuality.

In addition to the legalization of marijuana, society also became more permissive towards some sexual activities. The age for consenting sex was lowered to 14. This happened at the end of the century, as the birthrate had dipped below replacement level. Society needed to

encourage pregnancies and adoptions. Young girls who gave birth to babies that were subsequently put up for adoption were richly rewarded.

Births became highly valued, and the vast majority of them occurred outside of marriage. Gays, for their part, were encouraged to undergo artificial insemination and to adopt children, both domestic and foreign.

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During the first half of the 22nd century, the control of anti-social behavior took on new forms, which were said to be more rehabilitative than punitive. The country's correctional system was almost totally taken over by the chemo-psychological professions. No ward anywhere in the NAU was merely "doing time." Every inmate in the country was undergoing chemo-psycho treatment.

Novartis, Pfizer, Merck, and other pharmaceutical giants developed an ever richer array of psychotropic drugs - ranging from Zoloft, to Bupropion, Clazapine, Naltrex, Quetiapine and hundreds of others. The American Psychiatric Association's DSM (*Diagnostic Statistical Manual*) continued to prescribe ever more complex cocktails of such drugs. The social control system became a drug dispensation system, an agency in charge of *mind control*.

However, this does not mean that society reached scientific efficiency in the control of its deviants. While the nation's control system became totally medicalized, its practices were increasingly chaotic.

I described the *randomization of punishment* a moment ago, insofar as it increasingly targeted members of *any* social class, group, gender or ethnicity. In addition, punishment also became increasingly random in the sense that it was *anybody's guess* as to who got caught, tried, incarcerated, or forced to undergo treatment.

Electronic surveillance grew ever larger and more Kafkaesque. Satellites and the Internet made it *possible* for Big Brother to know what every North American was having for dinner, what every individual was writing in her diary, what every person was doing in his backyard, what product every citizen was consuming, selling or discarding, legally or not.

However, that's all it was - *a possibility*. In fact, Big Brother couldn't possibly notice 99% of what the people were doing. Despite the staggering growth in bureaucracy, in expense and in computer technology, there was no way that anyone, any agency or any search engine could examine *quintillions* of bits of data, collate them, analyze them, and act on them. Social Control and Law enforcement were a crap shoot.

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Foreign Policy, War and Terrorism: The all-time worst terrorist attack against North America happened on the centennial anniversary of 9/11 - in the Fall of 2101. This event is discussed in the present section rather than the previous one, because of its far-reaching international implications.

First, however, I must touch upon the major conflicts which involved the NAU during this period, i.e. from 2052 to 2150. America's disastrous African war in 2035-2036, was followed by a period of introspection and withdrawal from world affairs. This had long been a pattern. Ever since its participation in World War One, the United States had vacillated between isolationism and a missionary urge to police the world. These were the country's two contradictory and almost schizoid impulses - isolationism and internationalism. Each of America's wars was followed by a period of disengagement from international affairs. This happened after victorious war such as World Wars One and Two, after inconclusive ones such as Korea, and after wars which America lost, such as Vietnam, the Iraq-Afghan campaign, the 2017 war against Iran and the African war.

The period subsequent to the African debacle followed precedent. For nearly thirty years, the NAU managed to avoid military entanglements in several international conflicts, focusing instead on the unification of North America and on the attendant challenges.

Globally, this was an era of international balance of power and coalition politics, as had been the case during most of the 19th century and during the Cold War.

A vast and powerful block consisted of "Eurabia," the European-Muslim union which emerged at mid-century (see next chapter). With the exception of Britain, the members of this block remained as alienated from the NAU as they had been anti-American since the beginning of the 21st century.

Throughout the 21st century, the NAU continued to lose its economic pre-eminence. The overall size of its economy was overtaken by China and Eurabia, its standard of living was surpassed by dozens of countries, as were the quality of its technology, its productivity, its education, and its public health. Nevertheless, it remained a major power with which the world had to reckon, and militarily it remained - along with China and Eurabia - one of the super-powers.

Lacking the power to act unilaterally, as it had done several times in the century, each time with disastrous consequences, the NAU now practiced coalition politics. By the 2040s, it had mended its fences with China. Its relationship with India remained solid, and the alliance with Japan was never in serious doubt.

The most serious conflict of the 21st century was the Indo-Pakistani war of 2064. The war was a short and devastating nuclear exchange between the two countries, followed by decades of bloody United Nations peace-keeping involvement. It was impossible for the NAU to remain uninvolved.

The Indo-Pakistani war will be described in the next chapter. Here, I discuss the NAU's involvement in it. After the United Nations' imposition of a cease fire upon Pakistan and India, and the decision to declare Kashmir a U.N. protectorate, the Security Council proceeded to assemble the large peace-keeping force which this action necessitated. The bulk of the blue-helmets were to come from the three major world powers - Eurabia, China and the NAU.

India and Pakistan trusted diametrically opposite countries. Similarly the sympathies of the world powers were each others' diametric opposites: Eurabia - one of the two most powerful and affluent powers - maintained a very strong relationship with Pakistan, with which it shared a

demographic, cultural and religious similarity. On the other hand, the NAU had long been a friend, supporter and ally of India. China, finally, maintained its customary prudent and opportunistic neutrality, waiting in the wings to see which way the wind would blow.

Because of the urgency of the matter, the U.N. swiftly cobbled together an international peace-keeping force comprised of troops from the three major world powers. The force had to be large, as Kashmir was a hornets' nest of violence, terrorism and nuclear devastation. After the mandatory departure of all Indian and Pakistani troops and administrators, what was left behind was a lawless no-mans' land populated by 80 million wretched and angry people, a failed state not unlike Somalia and other parts of Africa.

It is into this quagmire that the NAU was dragged, making up one third of the million man peace-keeping force that was required. While it was hoped that the composition of the force would provide the balance and neutrality necessary for success, it was actually a formula for stalemate and continued bloodshed. The UN effort was paralyzed by the rivalry between the NAU and Eurabia.

Interneccine violence between Muslim and Hindu Kashmiri was chronic, as was that against the UN forces, which were seen as occupiers. The Eurabian authorities were utterly biased in their tolerance of Muslim violence, whereas the NAU forces did precisely the opposite - condoning much of the terrorism perpetrated by Hindu extremists.

The losers? Everyone, with the possible exception of the Chinese contingent. More than thirty years later, as the end of the 21st century approached, the NAU still had 300,000 troops in Kashmir, largely sitting ducks. Over that period of time, it had lost nearly 100,000 men and women in that ungovernable province.

By then, the NAU had suffered from a century-long economic decline so steady and so inexorable that it could no longer afford to help police the world, let alone do it by itself, as the United States had tried in the beginning of the 21st century. Shortly before the end of the century, a new administration unilaterally pulled out of Kashmir, come what may.

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Perhaps the NAU's withdrawal from Kashmir was perceived as weakness. Perhaps the pull-out encouraged what happened shortly thereafter, namely the most devastating terrorist attack on North America *ever*.

After 9-11, the Continent had managed to keep terrorism at bay for much of the 21st century. There were a few botched attempts, for example the Nogales Incident in 2021, but no major successful attacks. The unification of North America after 2052 meant that there was no longer a US-Mexican border, let alone the abortive "wall" which had been partially built and then demolished in 2039. Instead, the nation's border shifted two thousand miles South, to Guatemala. Conservatives had predicted that the new geography would increase the country's vulnerability to terrorism. On the other hand, it might do precisely the opposite, by providing a large buffer zone between the Southern point of entry and the terrorist's ultimate preferred target, which remained the former United States, not Mexico. Or, perhaps the absence of major terrorism in North America throughout the 21st century was due to the vigilance of Homeland Security. Or perhaps it was luck.

The three major methods available to terrorists were (1) the hijacking of airplanes and their use as weapons of mass destruction, which was the M.O. used successfully by AlQaida on 9-11. (2) bio-terrorism, the method which failed in Nogales, where an AlQaida-Latin narco-terrorist coalition tried to smuggle 10 kilos of anthrax into the US. (3) nuclear terrorism, which had never been attempted - until now.

In 2101, anti-American terrorists finally hit the jackpot. It was obviously not a coincidence that the attack was mounted on the centennial anniversary of 9-11. In the summer of that year, a joint team of Eurabians and South Americans crossed into the NAU from Guatemala with legitimate tourist visas. They traveled their way up to New York, five thousand miles North.

Unbeknownst to the authorities, the team consisted of a dozen engineers who had been trained in advanced nuclear physics in Iran by Persian and Russian scientists. Their object was to sabotage one of the NAU's most powerful nuclear power plants. They had no need for smuggled materials. *Knowledge* was what they brought with them.

The group selected the Indian Point Power Plant located on the Hudson 25 miles north of New York City. They did this for two reasons: (1) that plant, rebuilt in 2072, was one of the NAU's largest. (2) It was located upwind from a metropolitan region with a population of 20 million, plus another 10 million people living within a radius of fifty miles. Sabotaging the nuclear spent fuel rod storage and the cooling systems would trigger a Chernobyl-like disaster, one with much greater lethality.

And this is precisely what happened. The meltdown and the massive radiation leak were a total "success." The resulting deaths were not immediate, but they were massive. By the end of the year, New Yorkers were dropping by the hundreds of thousands. During the next ten years, the fatalities, including slow cancer deaths, numbered in the millions.

The government's response was predictable. First, the attackers and their sponsors were identified. Once again, they turned out to belong to the two factions which had joined hands previously to mount attacks against North America: Eurabian Muslim factions and South-American drug cartels. Then, the CIA claimed to have found proof that the operation had been sponsored and financed by a number of governments in the Middle East and in South America. This evidence was presented to the United Nations, where deliberations were both fevered and inconclusive. Meanwhile, the administration began to prepare to wage war against the countries it held responsible.

The situation was complex. By the beginning of the 22nd century, the maps of the Middle East and of Latin American were very different from what they had been a century earlier (see next chapter). Furthermore, much of the Middle East was closely allied with and protected by Eurabia.

Had the outraged people and government of the NAU followed their emotions, they would have plunged into a simultaneous worldwide war against both the Middle Eastern and the South American governments which had sponsored and financed the Indian Point nuclear attack.

The administration was divided into two factions: The hawks, who favored precisely this. And the moderates, who argued for a more measured response. This group's position was

supported by two facts: (1) Eurabian saber rattling in the form of a threat to come to the rescue of any Middle Eastern country under NAU attack. (2) The governments accused by NAU of complicity (primary among them Iran and Pakistan) vehemently and somewhat plausibly denied any role, instead arguing that the attackers had been “free-lance.”

In South America on the other hand, the collaboration between governments and drug cartels was quasi-official and undeniable. Thus, the NAU was more persuasive in holding the governments of Venezuela, Columbia and Santa Cruz responsible for the attack. Furthermore, those governments did not enjoy a strong alliance with, and the protection of, another major world power.

By the spring of 2102, the die was cast: The NAU decided to invade and to occupy major parts of South America, including Venezuela, Columbia and the new country of Santa Cruz, which had been carved out of Bolivia and Brazil by sympathizers of Venezuela’s populist regime.

It took the nation several years, much treasure and many lives to achieve its military objective, but it succeeded. By 2115, the NAU controlled much of the Northeast of South America - nearly two million square miles of territory. That region became permanently occupied by the NAU, which planned to integrate it into the North American economy.

The NAU wisely refrained from the two-front war which it would have had on its hands, had it also engaged in retaliatory warfare in the Middle East. However, the administration took several bellicose measures short of open warfare: (1) It broke off diplomatic relations with half a dozen Muslim nations *permanently*. (2) It forbade *all* travel to and from those countries. (3) Its relations with Eurabia became even frostier than they had been for many decades - a new cold war similar to the 20th century cold war between the US and the USSR. (4) Islam was outlawed, as were the Koran, all mosques, and all other manifestations of Islamic culture and religion. Again, the situation became reminiscent of the 20th century, when the US government had criminalized Communism and Communists for several generations.

5. Technology: Some aspects of technology have already been touched upon in a previous sections. Here, I add a few more of the most noteworthy changes during this time period: Because of the country’s renewed reliance on coal power, coal-powered and steam-powered engines made a great come-back, especially in transportation. Thus, the vast majority of trains were once again pulled by steam locomotives. In addition, an increasing number of cars ran on steam power, after its introduction in 2071.

There was a steady reduction in commuting, something which was largely relegated to the lower classes. Moving physically to work was only necessary for those who still had to perform the few manual tasks of a very small industrial sector, plus such tasks as infra-structure repair and some agriculture. However, even those sectors made increasing use of robots, however inefficiently. The vast majority of the labor force consisted of service employees, who could accomplish 90% of their work electronically. No one worth his salt chose to commute, particularly in the country’s warmer regions, as the global temperature rose by 10 degrees over the century, and cars by and large no longer had air conditioning. Home air conditioning was still available, but only to the rich.

The communication revolution had already been completed by the late 2030s, by which time 99% of all communication was electronic (see Chapter One). However, the volume of Internet traffic continued to grow exponentially, and by mid-century it met its limit.

The United Nations convened a conference to deal with the problem. It was decided to speed up the laying of cables, to maximize fiber-optic and wireless bandwidth as well as data compression. However, all these methods aimed at increasing and modernizing the Internet infrastructure had already been used for decades, and there was little more that the world could do about Internet overload. Digital information was measured in *exabytes*. One exabyte is one billion times one billion bytes, i.e. 10^{18} bytes. By the late 21st century, the world was creating one thousand exabytes of digital information each year, i.e. 10^{21} bytes. Put another way, the equivalent of twelve stacks of books that reach from the Sun to the planet Jupiter.

The world's response to the crisis was three-fold, and dysfunctional: (1) Different regions of the world began to develop their own exclusive systems. The three major powers - Eurabia, China/ACPA and the NAU - were in the forefront of this misguided effort. Thus, the unifying force which the Internet had been for a century - i.e. its ability to give everyone on earth access to the World Wide Web - was now being undermined and reversed. Each group began to develop its own protocols, languages, links and protective walls with the aim of creating regional systems that would successfully exclude the others. This had long been a fervent wish among many non-Spanish-speaking countries - for example China, Russia, Eurabia, and the Middle East. Thus, three major systems emerged, plus a few minor ones. The people of one region could no longer automatically access the World Wide Web. They had access to their own regional web instead. Or put another way, the World Wide Web was fragmented.

As lip service to the ideal of continued international collaboration, the members of the United Nations nevertheless agreed to maintain hyperlinks between the separate networks, something which individual countries could opt to employ. The entire new system of several regional Internets was dubbed the *Interweb* - a mishmash of partially accessible websites (former components of the World Wide Web) and partially linked Infrastructure (the former Internet). Thus, one response to the Internet overload crisis was a misguided and unhelpful return to regionalism and nationalism.

(2) The second remedy was more rational: It consisted simply of establishing a long-overdue priority system for electronic traffic and interaction.

I say "interaction" because by the beginning of the 22nd century, a growing portion of Internet traffic became just that - virtual interaction, rather than mere communication: By the 2230s, Sony's *Virtulife* (at first a mere experiment in 2026, see Chapter 2) began to show some commercial viability. Programs such as *Virtucom*, *Virtutavel*, *Virtulove*, *Virtuplay*, *Virtufight*, and *Virtusport* became attractive to millions of lower-class people as substitutes for the real thing. For those who could not afford the real experience, there was now virtual fishing, traveling, out to dinner, to movies, hike in the Grand Canyon, camp in Yosemite with their friends and distant relatives while staying in their living room at home.

The quality of virtual programs ranged from bad to so-so. The best programs offered virtual experiences which were, after a few beers, almost passable. The cost of the software and

hardware ranged from expensive to astronomical, if one desired a better quality simulation. A majority of those who participated in virtulife did so only via the cheaper and more rudimentary programs available, which only provided rough facsimiles of the real thing.

The Internet overload crisis which occurred during the second half of the century forced the authorities to sharply reduce the volume of virtual interaction, as most of it was recreational, and thus low priority.

While all countries were forced to pull in the reigns of Interweb usage, different societies established different priorities, and they differed in the rigidity of their priority systems. I touch upon this in the next chapter.

As far as the NAU was concerned, it remained relatively democratic, at least in contrast to the more authoritarian and socialistic regimes overseas. Of course, some might say that the Western Hemisphere were more anarchistic, as it had often been in the past, and thus less efficient.

In North America, the prioritization of Interweb traffic placed official communications and information emanating from government, military, university and large corporate sources at the top. Recreational and sexual information and interaction became more difficult to access.

Then, too, differential access to electronic communication and interaction was ever more determined by one's wealth, and this triage was more pronounced in the NAU than in many other parts of the world. After all, the North American way had always been the capitalist way. Quite simply, if you had the millions, you could pretty much enjoy all the privileges of e-mail, text messaging, virtulove with your mistresses, virtutransport, and virtufish with your friends. For the less affluent, access became increasingly rare, slow and unaffordable.

6. Population and Public Health: The most dramatic demographic transition that occurred during this era was the depopulation, first, of the Dry Belt, and then of the entire NAU. Table Two gives data about this.

The depopulation of the Dry Belt (an area largely although not entirely congruent with Spanish America) was primarily due to the exhaustion of its water supply and its gradual desertification. That of the totality of NAU had different causes, including a deterioration in public health, socio-economic hardship, changing values and lifestyle. By the turn of the 22nd century, life expectancy had declined to 75, from a peak of 82 eighty years earlier.

Health care had been nationalized in the 30s, placing the entire population into a system modeled after Medicare. This certainly helped to improve the health of dozens of millions of indigent North Americans. However, when the quality of the nation's health - as measured by life expectancy - peaked and in fact began to deteriorate around mid-century, conservatives screamed, "I told you so!"

Of course, blaming "socialized medicine" for the country's health woes was unfair. For one thing, while the health insurance system had been nationalized, the Insurance companies, the drug manufacturers and the AMA retained a heavy hand in its operation. The insurance companies had managed to stay in the game by assuming the role of governmental insurance brokers. Then too, physicians and drug manufacturers lobbied successfully for legislation that guaranteed minimum physician fees and minimum drug, lab and hospital charges - all at the taxpayers' expense. Thus, the new health care system was more costly than ever. Switching to electronic files failed to reduce the size and inefficiency of the bureaucracy because (1) the

laws required the maintenance of paper trails for all medical transactions, and because (2) absurdly elaborate privacy requirements made access to information very cumbersome. This resulted in frequent and dangerous delays in treatment. The great improvement was in the fact that nobody was denied health insurance and medical assistance any more.

On balance, the nationalization of the medical system was a boon, not a bane. The decline in public health from the middle of the 21st century onwards had little to do with it. It had everything to do with deteriorating environmental and socio-economic conditions. For one thing, the renewed reliance on coal badly polluted the atmosphere and led to an enormous increase in bronchial and pulmonary disease - the equivalent of a massive resumption of cigarette smoking. Furthermore, the increase in the nation's nuclear power plants was associated with a growth in various sorts of

Table Two: The Depopulation of the NAU, particularly the Drybelt, i.e. Spanish America

year	Atlantic America	English America	French America	Mexico	the North	the South	Spanish America	Autonomous America	Total NAU
2041	95	122	13	180	3	131	<u>117</u>	11	650
2061	105	138	16	216	6	145	117	18	<u>761</u>
2081	<u>108</u>	<u>148</u>	<u>18</u>	<u>225</u>	<u>11</u>	<u>149</u>	77	22	758
2101	102	145	17	218	10	139	52	21	704
2121	81	127	15	196	9	120	37	19	604
2141	61	99	12	171	7	103	23	16	492
2161	42	74	9	134	5	77	11	12	364

cancer, including virulent new forms of testicular and prostate cancer, as well as a large increase in sterility.

The country's population peaked in the sixties, remained stagnant thereafter for much of the rest of the century, and began to decline rapidly in the 22nd century. We saw in Section Two of this chapter how this affected politics and caused the government to desperately seek a variety of pro-growth policies. However, economic incentives to make more babies could only go so far. In addition to economic hardship, much of the population was also driven by renewed anti-natalist values.

7. Culture, Education and Civilization: During the first decades of the 21st century, the world economy moved in the direction of global integration. However, from the 2040s onward and into the 22nd century, the trend shifted in the opposite direction - fragmentation. The standard of living in North America declined - as it did in several other parts of the world. The unemployment rate rarely dipped below 10%. A job became a person's most precious

possession. Competition for jobs became ever more fierce.

As had often happened in the past, when jobs became scarcer and more precious, women were the first to suffer the consequences. By the end of the century, only one third of women between the ages of 24 and 60 were gainfully employed - down from 75% at the beginning of the century.

Women were not blatantly pushed out of the labor market. Rather, the exodus was the result of pressures such as low pay and cultural arguments encouraging women to do “what they do best,” i.e. assume nurturing parental roles. This occurred, of course, at a time when pro-natalist values were being promoted, to counteract population decline. And with the generous pro-natalist government policies and the astronomical cost of childcare, the economic calculus often made sense. It was much more profitable for a parent to raise three or more children than to have a job.

To be sure, there were millions of house-husbands as well, plus millions of single parents of both sexes, gay parents, and assorted other forms of parenting (see below). The economic and demographic trends did not signal a reversal of the sexual revolution. Still, a certain “naturalness” caused many women to revert to traditional roles, i.e. more women than men resumed traditional parental roles.

Nevertheless, the changing nature of work helped to prevent a backsliding from feminism: During the second half of the 21st century and into the 22nd century, North Americans continued to work ever longer hours. They had to, in order to make ends meet. A new sort of division of labor ensued. Full-time gainfully employed workers regularly put in 60 to 80 hour workweeks. And as just explained, a majority of these were men. However, this did not mean that those who did not receive a paycheck were not part of the economy:

A revolution took place with respect to how people produced and consumed *food*, and what they ate: Society was overwhelmingly vegetarian. The exhaustion of the water supply just about killed off corporate agriculture in the West. Due to other factors, it was also greatly weakened elsewhere. Supermarkets became rare. Farmers markets proliferated, but they were unaffordable to all but the very rich. Food was enormously expensive. The average household spent half of its income on it.

The backbone of the nation’s food supply now consisted of ***gardening***. 95% of households grew their food in their private gardens. There was increasing specialization, and bartering became a hugely important element of the national economy (which was increasingly underground and untaxed). The home farming function, then, was essential, and it was the responsibility of those who were homebound - more often women than men.

The division of labor, then, was not strictly gender-based, even though it tended a bit in that direction. However, this was more reminiscent of pre-urban ***horticultural*** society than it was of highly stratified agricultural civilization. That is, the ***status*** of home-gardeners - who were often but not always women - was high. It was further enhanced by the fact that they were also in charge of the household’s electronic nerve-center. Thus, the emerging division of labor did not lead to gender stratification. Women’s rights were as safe as ever. Feminism was alive and well, even though the rhetoric changed.

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The character of work and lifestyle was also deeply affected by a reduction in physical

mobility. The energy crisis reduced the amount of driving and flying among the general population. The virtual electronic revolution enabled society to adapt to this change relatively successfully. Tourism and travel were greatly reduced, or were limited to virtual experiences. Only the very rich and those on top of priority lists were able to move about over long distances. As to commuting, this was more and more relegated to a small segment of the working class, as the vast majority of those working in the managerial and in the service sectors could perform their work electronically from home.

As the 22nd century progressed, the organization of work underwent another fundamental change: In the first place, the length of the workweek finally began to decline. After more than a century of relentless growth, gainful employment finally became so competitive that more and more people were forced out of the labor market, or into part-time jobs. Thus work became more sporadic, more haphazard. A growing part of the underclass went through life without ever working, simply on the dole, or panhandling, or picking up an odd job here and there, bartering their services for food.

At the same time, a small but growing segment of the population held one and the same job for life. As society became more stratified and fragmented, the number of large estates - comparable to the Roman *Latifundia* two thousand years earlier, or perhaps the plantations of the Deep South during the 19th century - increased, and these employed large domestic staffs who enjoyed job security, as long as the lords of the manor did not get into trouble.

There was also an enormous growth in nepotism, as connections and relationships meant more than anything else for successful employment. A sort of “guild” system emerged, whereby jobs within a given field went to relatives, descendants and peers. For example, an entire academic department could be staffed by lesbians who had gradually brought each other on board and weeded out heterosexuals, or a whole Ethernet lab would be staffed by people of the same ethnicity, each hiring the next member and gradually homogenizing the entire unit. Meanwhile, down the street, an establishment’s entire personnel might consist of recovering alcoholics, all of them personal friends of each other, having met at AA meetings. The vast majority of positions were only available to those who already knew someone on the inside, someone either related, or someone in one way or another *similar to* the applicant.

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The word “family” meant something very different from what it meant in the 20th century: Fewer than 6% of households consisted of formally married, monogamous heterosexual couples. For statistical and other purposes, the government, the census bureau and social scientists used the concept of “household.” The word *family* was still used by the layman, but it had no precise or legal meaning. It could refer to a gay household, a multiple household, a single-parent household, various friendship groups, sexual groups and even professional groups. For example, four young IT (Information Technology) workers might house together and constitute a “family.”

As I said earlier, the North American population began to decline at the end of the century. This threat led to the encouragement of procreation, and sexual activity in general.

Births became highly valued, and the fact that the vast majority of them occurred outside of marriage did not matter one bit. Gays, for their part, were encouraged to undergo artificial insemination and to adopt children, both domestic and foreign. Adoption became highly lucrative.

As is often the case in human society, when societal needs call for certain responses, the rhetoric justifying those responses emerges, assuming the status of scientific fact. In 2007, geneticists at the Mayo Clinic made a highly convenient discovery: Gays - both male homosexuals and lesbians - were found to possess a special parenting gene which made them uniquely qualified to raise children. This special capability was located in the lower segment of the hypothalamus.

All sexual preferences were widely accepted and ignored. In most cases one knew no more whether one's interlocutor was gay or straight, than whether he or she preferred to eat apples or oranges. Nevertheless, gays continued to congregate in some areas more than in others. Florida, particularly the Keys, became the world's gay center, visited not only by affluent tourists from the NAU, but also from Asia and particularly from Eurabia. Gay cruises departed daily from Fort Lauderdale, and gay resorts and amusement parks dotted both the state's Atlantic and Gulf coasts. Sanibel Island was the campus of the World Gay University, founded in 2007, and adjacent Captiva Island housed the headquarters of the Federal Gay, Lesbian and Transgender Agency, a cabinet-level ministry created during the presidency of the first gay NAU president, the popular neo-pagan singer Joe Ballow, elected in 2008.

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As to religion, we already saw that because of the 2101 Indian Point Nuclear Power Plant attack, all forms and manifestations of Islam were thereafter forbidden. From the end of the century onward, religion in North America became characterized by three trends: (1) continued Christianity, (2) rising neo-paganism, and (3) secularism.

Due to the "Hispanization" of the NAU, Catholicism remained the single largest mainstream church - larger than all Protestant denominations combined. The number of Protestants went down. Until about 2020, only mainline Protestant churches had suffered decline, while Evangelical groups had gained adherents. However, as the century progressed, the latter denominations (Adventists, Fundamentalists, Pentecostals, etc.) also suffered membership loss. The one remaining bright spot for non-Catholic Christians was the Mormon Church, which had more members than any Protestant denomination.

However, the real growth sector was that of *New Age* and *neo-pagan* cults, sects and faiths. These had been proliferating for over a century, and their total membership now exceeded that of the mainstream religions. The largest new religious organizations included *Wicca* (25 million members), *Scientology* (27 million), the relatively late-comer *Cosmology* (17 million) and the *Unification Church* founded by the late Reverend Sun Myung Moon in the 1950s and brought to North America in the 1970s (30 million). The strength and popularity of the latter Church was due to its vigorous Ecumenicalism: Moon's successors were relentless advocates of the unification of all Christian faiths (of which they viewed themselves to be one)

under one umbrella. They were successful in creating the *North-American Ecumenical Council*, which represented the Catholic, Protestant, Mormon and other Christian faiths, while excluding most neo-pagan groups.

Special mention must be made of the *Transhuman Universalist Church*. This Church originated in the Anglican-Episcopal schism over homosexuality, at the beginning of the 21st century. In 2045, the group splintered off from the Episcopalians, re-named itself and forged a new - largely homosexual - identity. Its doctrine centered around the notion that God was gay, as were Jesus, Mary Magdalene and several other major biblical figures.

There also occurred a merging of, or rather an blurring of the lines between religion, popular culture and politics: Scientology had always had strong ties to Hollywood, as some of its better-known members were famous movie stars. Similarly, Cosmology contained many elements of Science Fiction. Neo-pagans and Transhuman Universalists also counted among their members several colorful popular culture icons. The most successful of these was Joe Ballow, an extremely popular neo-pagan singer who ran for public office as a Greenpeace Party candidate, and became the NAU's first gay President in 2098.

The prohibition of all forms of Islam caused Arab Americans grief. While millions converted to Christianity, many did not. This minority replaced Sub-Saharan Americans at the bottom of society's ethnic hierarchy. They were the most stigmatized, handled in the harshest manner by the authorities, the most alienated from mainstream society, and the most numerous among prisoners. Immigration from the Middle East ceased entirely - both because Muslims no longer desired to move to North America, and because North America no longer welcomed them. In addition, the relationship with Eurabia remained as bad as ever, best described as a continued Cold War.

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Finally, a few words about culture and language: While the NAU maintained its three-partied regional linguistic map - Spanish, English and French - there was a growing unification of language, as *Spanglish* became the universal means of communication, first on the North-American Interweb, and then increasingly also on the street. Furthermore, language became increasingly iconic and phonetic, slowly moving away from the Greco-Roman alphabet and towards Egyptian-style hieroglyphics. For example, electronic texts no longer employed words such as "man," "person," "food" or "bicycle," but instead they used icons depicting those objects. Keyboards, of course, were designed accordingly.

Only in some segments of the educational system did the evolution of language and communication follow a different path. While the overwhelming majority of formal education which was dedicated to technical training followed the trends just described - the growing dominance of Spanglish and of iconic signs - there were two major exceptions to this:

(1) All three linguistic areas of the NAU hung on to a degree of cultural nationalism, with school authorities resisting linguistic integration and continuing to push for a curriculum taught in their respective language. This was most pronounced in the French regions.

(2) Much of higher education continued to take place in the three respective languages, and in their abstract, non-iconic form. This was particularly so in the humanities, and as one

moved up to the doctoral and post-doctoral levels. This is how society once again exerted itself to preserve pure, classical culture, as it had done in the past when the Roman elite cherished Greek literature, and when Christian Churches continued to use Latin and that language continued to be taught in 20th century schools long after its death.

4. 2052-2150: THE WORLD

1. South America: The 2101 terrorist attack against the Indian Point nuclear power plant had far-reaching consequences for South America. As was mentioned earlier (see Chapter 3, section 4), the NAU's response consisted of invading the countries which it held responsible for the attack, namely Venezuela, Columbia and Santa Cruz.

For the better part of the 21st century, much of the continent had chafed under "Chavezism," the socialist regime established by Venezuelan President Hugo Chavez in 1999. *Chavezistas* gradually expanded their influence in several Latin American countries. For a while, the Venezuelan regime enjoyed a power based on rich oil revenues. However, as these revenues dwindled during the latter part of the century, the country descended into poverty, and it increasingly lacked the means to export its revolution.

The Chavez revolution also joined hands with the Columbian drug regime next door, and the Mexican drug cartels. This turned out to be a more reliable long-term strategy than its reliance on oil revenues. The drug industry in Columbia (as well as in Bolivia, Santa Cruz and other South American countries) continued to thrive, thanks to heavy demand from the NAU and from Eurabia. As to the Mexican drug cartels, they were defeated and expelled from that country after NAU's unification in 2052.

By the beginning of the 22nd century, there were three types of regimes in South America:

(1) social revolutionary governments which carried forth the Castro-Chavez legacy and which were irremediably hostile to the *Norte Americanos*.

(2) A second group of countries continued to hobble along as semi-functional social democracies, following a more or less free enterprise system, and generally on good terms with the NAU.

(3) Finally, there was the failed state of Brazil. That huge country no longer enjoyed any effective governance. The relentlessly rising crime rate led to civil war between militias, criminal cartels and an increasingly impotent central government, emulating what happened in countries like Columbia and Somalia in the late 20th and early 21st centuries. Because of its size, Brazil was no longer governable, and its disintegration made it that much easier for the NAU to annex part of its territory when it invaded other parts of South America.

South America: Area Annexed by NAU in White



One thing shared by *all* of South America - socialists, capitalists and anarchists - was steady economic decline. For generations, a bitter-sweet joke about Brazil was that, “Brazil is the country of the future - and it always will be.” But by the 2nd half of the 21st century, it was more accurate to say that, “Brazil is the country of a past which it never had.” Furthermore, this statement could now be generalized to much of the rest of the Continent, with the possible exception of Chile. The only other Latin-American country which avoided descending into poverty and chaos was Mexico, which of course became part of the NAU. Countries such as

Argentina and Uruguay, whose standard of living had been equal to Canada's at the turn of the 20th century, now were solid members of the Third World.

The collapse of South America was speeded up by its invasion by the NAU in 2102, and the protracted war which followed. The NAU's invasion of the Northwestern part of South America was prompted by the 2101 nuclear terrorist attack in New York, as had the invasion of Iraq in 2003 been prompted by the 9/11 attack in 2001. Another similarity between these two events was the lengthy and costly war and occupation which followed.

Not until 2115 was the NAU able to pacify the area under its occupation. This region, spanning about 2 million square miles, encompassed Venezuela, Columbia, Santa Cruz, parts of Brazil and parts of Panama. (See map). For thirteen years, the South Americans put up a stiff resistance, supported by large amounts of military assistance and thousands of "volunteers" from Eurabia.

At times, hostilities almost escalated to a war between Eurabia and the NAU. For example, there were repeated engagements in the Atlantic between the NAU's and Eurabia's naval forces. The NAU navy did its best to interdict Eurabian weapons shipments to South America. It was the Second Fleet's responsibility to fend off Eurabian military support to South America. The 125,000 ton nuclear aircraft carrier *Obama*, commissioned in 2071, remained the fleet's center piece, along with fifteen *Astute* class nuclear submarines. The NAU's first line of defense in the Atlantic was the blockade. However, Eurabia provided naval support for its convoys. This led to a number of battles, in which NAU submarines did not hesitate to torpedo Eurabian ships.

In 2108, the world came close to worldwide nuclear conflagration. However, both sides stood down at the last minute, as each realized its own vulnerabilities: On the one hand, the NAU's naval power remained superior to that of Eurabia. The *Obama* alone had enough nuclear fire power to incinerate all of Europe half a dozen times. On the other hand, the NAU had its hands full with the South American war. Opening up a second front in Europe would have been very debilitating.

In 2115, the NAU was finally able to complete the pacification of the area under its occupation. It proceeded to kill, apprehend or expel all Eurabian forces from the Western Hemisphere, appealing to the three-century old Monroe Doctrine. The NAU's takeover of one third of South America was of major lasting historical significance. Its presence on the Continent would become permanent, and a prelude to the full unification of the Western Hemisphere under the name of *Hispaniola* - a century later.

2. Eurabia: In Europe, the second half of the 21st century saw the fruition of trends which had been underway for three generations. Once again, Comte's dictum "demography is destiny" applies: Ever since the 1970s, native European fertility had been below replacement level, especially in Eastern and Northern Europe.

To counter the resulting greying of the population, the labor shortage, the incipient population decline and the looming social security and retirement funding crisis, Europe opened its doors wide open to immigrants. Initially, the inflow of immigrants included many Eastern Europeans, former Yugoslavs, sub-Saharan Africans and assorted others. However, as the 21st century progressed, the overwhelming majority of immigrants came from Muslim countries.

Millions moved to Europe from the Middle East, millions more from North Africa, as well as from Indonesia, Pakistan and other Muslim nations.

For years, the pattern had been for each European country to be primarily the recipient of immigrants from its former colonies. Thus, the Congolese tended to flock to Belgium, the Indonesians to the Netherlands, the Pakistanis and Indians largely to the United Kingdom, Moroccans and Algerians to France and Spain, Libyans to Italy, etc. In time, of course, all groups would fan out across other parts of Europe, which became a true melting pot.

Some countries did not have a significant colonial history, yet they, too, hungered for foreign labor. For example, the bulk of immigration into Germany consisted of Turks, even though those two countries had not had a prior colonial relationship.

Approximately 80% of all immigrants into Europe came from the world's Muslim areas. No other country received more such immigrants than France, the destination of thirty million Arabs from Algeria, Morocco and Tunisia in the 21st century. France was in the forefront of the "Arabization" of Europe not only because of this massive influx from North Africa, but also because of the very high birthrate of those immigrants, combined with a growing rate of intermarriage with Frenchmen. By the end of the 21st century, three quarters of all French households was either of Arab origin, or had Arab relatives through intermarriage.

While France was in the forefront of Europe's Arabization, the rest of the Continent was not far behind. Furthermore, Arabs represented the largest single block of Muslim immigrants into Europe, even though the Continent also received millions of arrivals from Pakistan, Indonesia and other Muslim areas.

There was a further factor which turned Europe into a Muslim Continent: Several non-European Muslim countries were admitted to the European Union, notably Turkey, Morocco and Tunisia. The entry of such countries had long been opposed by native Europeans, but as their numbers dwindled and those of Muslim immigrants and their children grew, the scales of public opinion and of the legislatures finally tipped in favor of admission. Turkey, which had been seeking membership since the 1980s, was finally admitted in 2039. Morocco became a member 28 years later, Tunisia at the turn of the 22nd century. Algeria was already knocking on the door, and it was only a matter of time before its seventy million people would also become part of "Europe." Turkey was the largest European state, its population reaching 125 million in 2080, exceeding that of Germany by 50 million and Russia's by 35 million.

In sum, Europe became a Muslim Continent, and it became known as *Eurabia*, first in common parlance, and then officially. Of course, this appellation overlooked the fact that not all European Muslims were Arabs, some of them coming from Persia, Pakistan, Afghanistan, Indonesia and other non-Arab Muslim countries. However, most of them were. Far fewer Persians migrated to Europe than Arabs, and fewer Shiites than Sunis. Thus, the name "Eurabia" stuck.

Furthermore, the Arabization of Europe was not even. The process was strongest in the European Community, which by 2100 consisted of 38 states, with a population of 602 million, of whom two thirds were Muslims. Table Three shows this. Two factors caused EU membership to grow during the century : (1) several new members were added. (2) there were further split-ups in existing countries. The most notable of these was Belgium's break into Flanders and Wallonia in 2067.

Table Three: Eurabia and Its Population in 2100

Country or Group	Population (in Millions)	% Muslim
1. Albania	3	90
2. Austria	6	33
3. Baltic States (3 countries)	4	20
6. Benelux (4 countries)	26	33
10. Bulgaria	4	25
11. Former Czechoslovakia (2 countries)	11	25
13. France	60	67
14. Germany	73	65
15. Greece	7	51
16. Hungary	6	28
17. Italy	34	49
18. Micro states: Andorra, Liechtenstein, Monaco, San Marino, Vatican City (5)	1	10
23. Misc.: Cyprus, Malta (2 countries)	2	85
25. Morocco	47	99
26. Poland	26	25
27. Portugal	7	38
28. Romania	15	25
29. Russia	90	37
30. Spain	29	38
31. Tunisia	15	99
32. Turkey	125	99
33. Former Yugoslavia (6 countries)	21	61
Total: 38 countries	612	65%

The number of European countries *outside* the EU also grew - to eight by the end of the century. Why? Because, in addition to the three countries which had never joined the Union, five countries defected. These included Scandinavia and most importantly the United Kingdom. Table Four shows these countries.

Table Four: Non-EU Europe

Countries	Population	% Muslim
Defected from EU: Denmark, Finland, Ireland, Sweden, United Kingdom	75	48
Never part of EU: Iceland, Switzerland, Norway	10	41
Total: 8 countries	85 million	47% (40 million)

The non-EU countries of Europe were not as thoroughly Arabized as the rest of Europe. This was both the cause and the effect of their separate political paths. The cultural differences between these eight countries and the EU also caused political differences. Britain's and Scandinavia's ties to the NAU remained stronger, and their transatlantic relationship was far friendlier than that of the European Union.

One might ask: why did the EU not forge a total alliance, perhaps even a merger, with the United Islamic Alliance (see below)? The reason for this is that most Europeans remained secular, whereas the Middle East was theocratic. Muslim immigrants into Europe at times tried to introduce religion into politics, forming religion-based political parties. However, Europe resisted these efforts successfully. Thus, it was Europe which succeeded in secularizing its Islamic immigrants, rather than the obverse.

On the other hand, the Middle East was now ruled by two large and powerful theocracies: (1) The ***Islamic Republic of Iran***, founded in 1979 and largely Shiite, and (2) the ***United Islamic Alliance*** (UIA), a largely Suni alliance of several Arab countries, including Saudi Arabia and Egypt (see next section). Because Eurabia and the Middle East shared so much culturally, they forged a strong alliance which lasted for several centuries, and they rarely failed to present a united front on the world stage, for example when challenged by the NAU, or at the United Nations.

* * * * *

During the 21st century, the European standard of living and quality of life overtook and then steadily forged ahead of that of the NAU. The 2008-2018 World Financial Crisis was neither the cause nor the result of America's economic decline. It was merely a symptom. The long-term illness had been festering for decades, and the best efforts of enlightened Presidents

such as Obama, Clinton, Lopez-Garcia, Lefebvre and Ballou only succeeded in stanching the economic hemorrhage, never in restoring America's pre-eminence.

When the crisis of Capitalism hit the world from 2008 onwards, Europe was better prepared to weather the storm than America. It was able to fall back on a social-democratic tradition which provided a more generous safety net to the population, a far better developed public sector which provided low-cost transportation, medicine, education, unemployment protection and infrastructure than were available in America.

Furthermore, Europe's environmental and energy strategy was more effective: Its proximity to three major sources of fossil fuels was just luck. These were the North Sea, Russia and the Middle East. Strong alliances with the latter two combined with new discoveries in the former, guaranteed Europe a supply of relatively cheap oil and gas.

At the same time, the Continent depended much more on alternatives to fossil fuels than did the NAU: France remained the world's leading user of nuclear power, Germany, the Benelux, Scandinavia and the Iberian Peninsula relied on wind, solar and other sources of energy for over 50% of their needs. By 2060, Europe had achieved quasi-energy independence, while enjoying a much cleaner environment than the rest of the world.

The European welfare state also always approached public health in a more socialized manner than had the NAU. The proponents of "socialized medicine" had long pointed out that the Europeans lived longer, healthier, better lives at a much lower medical cost than did Americans. This was strongly denied by American vested interests - the drug manufacturers, the insurance industry, the American Medical Association, the HMOs and the PPOs - which all claimed that American medicine was the best in the world and that the rationing of medicine, as done in Europe, was an abomination. However, by 2035, the superiority of a nationwide, government-run single payer system was so undeniable that America finally saw the light and adopted a system fairly similar to the European plan.

Just when the debate about socialized medicine was settled in favor of the progressive position, new challenges caused Europe to forge ahead and adopt even more draconian measures commonly associated with the "Left." Ever so pragmatic and "progressive," more and more European governments legalized, and then made it increasingly easy to receive late-term abortions, assisted suicide, euthanasia, senicide and the "disposal" of "defective" babies *after* birth, i.e. infanticide.

The second half of the century saw the emergence of new medical legislation so Orwellian as to make European society unrecognizable. The governments of Europe argued that the cost of socialized medicine - because of the aging population - required not only rationing, but also prioritizing. Some recipients of medical treatment and some treatments had to take precedence over others. For example, one could extend the life of a 90-year old lung cancer patient by one year at a cost of one million Euros, or add a year of life to hundred fifty-year old patients suffering from Hepatitis C for the same amount of money. The European authorities increasingly approached such moral dilemmas through the lens of economics.

For example, in 2082 the Dutch government appointed a Royal Commission to devise exact mathematical formulas to calculate the monetary value of specific amounts of time of

human life, depending on such factors as age, physical condition and economic function. This then produced legislation decreeing the type of treatments covered by the national health plan, and which patients could receive them and which ones should be denied them, based on cost and patient status.

Using a bell curve, citizens between the ages of 30 and 50 enjoyed, other things being equal, the greatest value *per annum*. That amount declined steadily as one approached old age. For example, a year added to the life of an otherwise healthy and lucratively employed citizen was worth nearly 300,000 euros. That is, if such a person were to require medical treatment, he was covered up to that amount. However, an 80-year old retiree needing treatment which might help him live one more year was covered for a much smaller sum even though keeping him alive would, paradoxically, be much more expensive.

Whenever a person required medical treatment, physicians estimated its cost, and the cost of extending the patient's life by one year. That number, in turn, was multiplied by a weight which consisted of the patient's age, his socio-economic importance and several other factors. Treatment was extended or denied depending on the outcome of this calculus. For the total Dutch population, the Royal Commission determined the *average* worth of one year of human life to be 175,000 euros. This encompassed all ages and all professional groups, including the members of the royal family.

In general, the European welfare states remained relatively more generous than the NAU government. As mentioned, the Continent was simply *richer*, thanks in part to its partnership with the United Islamic Alliance (UIA) which, in turn, was a whole lot richer than Eurabia.

Eurabians continued to vacation and to travel a great deal more than North Americans, and their workweek remained far shorter. Most middle-class Eurabians enjoyed nearly six months of vacation time per year, half of it paid by the government. However, the luxuriant life was not spread equally across all groups: The Muslim upper class enjoyed the greatest amount of leisure, while an underclass of largely Eastern European immigrants worked much harder.

As mentioned, international oil transactions were no longer conducted in dollars. For a while, the Euro replaced the dollar as the preferred international currency. However, soon the Europeans lapsed into debt, just as the Americans had done. Therefore, the world currency became the *Solar*, the new international unit introduced and approved unanimously by the UN in 2038. The Euro remained overvalued throughout the century. For example, in 2070, one Euro was worth ten Dollars, or three Solars. This was bad both for Eurabians and for North Americans: The former could hardly compete on the world market, while the latter's buying power was still declining (translate: North Americans were getting *poorer*).

* * * * *

The remaining developments of interest on the Continent during this period include the following:

- ! The major conflicts in which Eurabia was embroiled during the 21st and early 22nd centuries have already mentioned. Prime among them was the South American war of

2102-2115. Most of the century under discussion can be characterized as a Cold War between Eurabia and the NAU, although this only applies to the European Union, as Scandinavia and Britain remained on much better terms with North America.

! As to the Arabization of Europe, it must be remembered that while this did happen in ethnic terms, it was a failure at the cultural and religious levels. The virulent theocratic imperialism emanating from both the Islamic Republic of Iran and the United Islamic Alliance - sometimes referred to as *Islamofascism* - never materialized in Europe. In that sense, the peaceful 21st century Muslim take-over of Europe was as much a failure as had been the Moorish invasion and occupation of Spain which lasted from the 8th to the 15th century, and the Ottoman invasion and occupation of Eastern Europe from the 14th through the 16th century.

! By the middle of the 22nd century, global warming caused the North Sea to rise by nearly two feet. The rise of sea levels presented a graver danger to the Netherlands than to any other country on earth, as nearly one third of that country is below sea level, by an average of ten feet. The Dutch continued their valiant struggle against the sea, fortifying the Delta Works and their other state-of-the-art waterworks. They also reclaimed an astonishing additional 3,000 square miles of land, drying the *Markermeer*, the *Ijsselmeer* and the entire *Wadden Sea*. While still a small country, it moved up in rank from 134th largest in the world, to 128th.

! The depopulation of Eastern Europe and of Russia continued. By the middle of the 22nd century, the latter country's *Russian* population was down to 57 million, and it was predicted to dwindle to 20 million in another century. As mentioned (see Chapter Two), Chinese migrant workers began to fill the void of Asian Russia as early as the 2030s. A century later, the region was unrecognizable. The vast majority of its population was Chinese. The transition was as peaceful as that of the American Southwest, when that region changed from an Anglo into a Hispanic area.

During the 2080s, European Russia also began to "turn Chinese," since its native Russian population was also dwindling, and since the hundred million Chinese living beyond the Urals were moving into European Russia in increasing numbers. The main attraction for them was the greater Moscow region, which remained one of the world's most magnetically affluent centers, and the seat of a fabulously wealthy and corrupt Russian plutocracy.

The situation in Eastern Europe was different: There too, native populations were plummeting. In 2100, The combined population of the fifteen former Communist satellites of the Soviet Union was 85 million - half of what it was a century earlier (See Table Three). Some countries - the Baltic States, Hungary - were on the verge of extinction. Not only had these countries suffered from a below-replacement level birthrate for four or five generations, but many of their people also migrated to Western Europe, where the standard of living was much higher and job opportunities abounded, as Western Europeans disliked work.

But such migration could also be viewed as internal migration, since most of

depopulated Eastern Europe was now part of the EU.

Thus, places such as Hungary and Serbia could perhaps be viewed as the Auvergne in France, or the Dakotas and Nebraska in North America: depopulated regions dotted with ghost towns, with a rich past and a colorful landscape, currently only significant as tourist attractions.

3. Middle East: As mentioned, most of the Middle East was divided into two large and powerful theocracies - the Islamic Republic of Iran and the United Islamic Alliance (UIA). The latter consisted of the following formerly independent countries: Egypt, Saudi-Arabia, the Gulf States, Syria (which annexed Lebanon in 2040) Palestine (which included the former Israel and Jordan), Yemen and Libya. The UIA was fabulously affluent, thanks to centuries of oil revenues. Its cities featured 3000 foot tall skyscrapers on wheels, domed ski resorts built in deserts with 140 degree temperature, ☀30,000 a night hotels, supersonic trains, space tourism launched from Riyadh, and more.

The UIA and Eurabia were long-term friends and allies. Their cultural, economic, political and military ties were many. Together, they represented the most powerful political alliance in the world. While China was the number one economic power on earth, and whereas it frequently sided with the NAU at the United Nations and in other international matters, that alliance was not as solid as the one between the UIA and Eurabia.

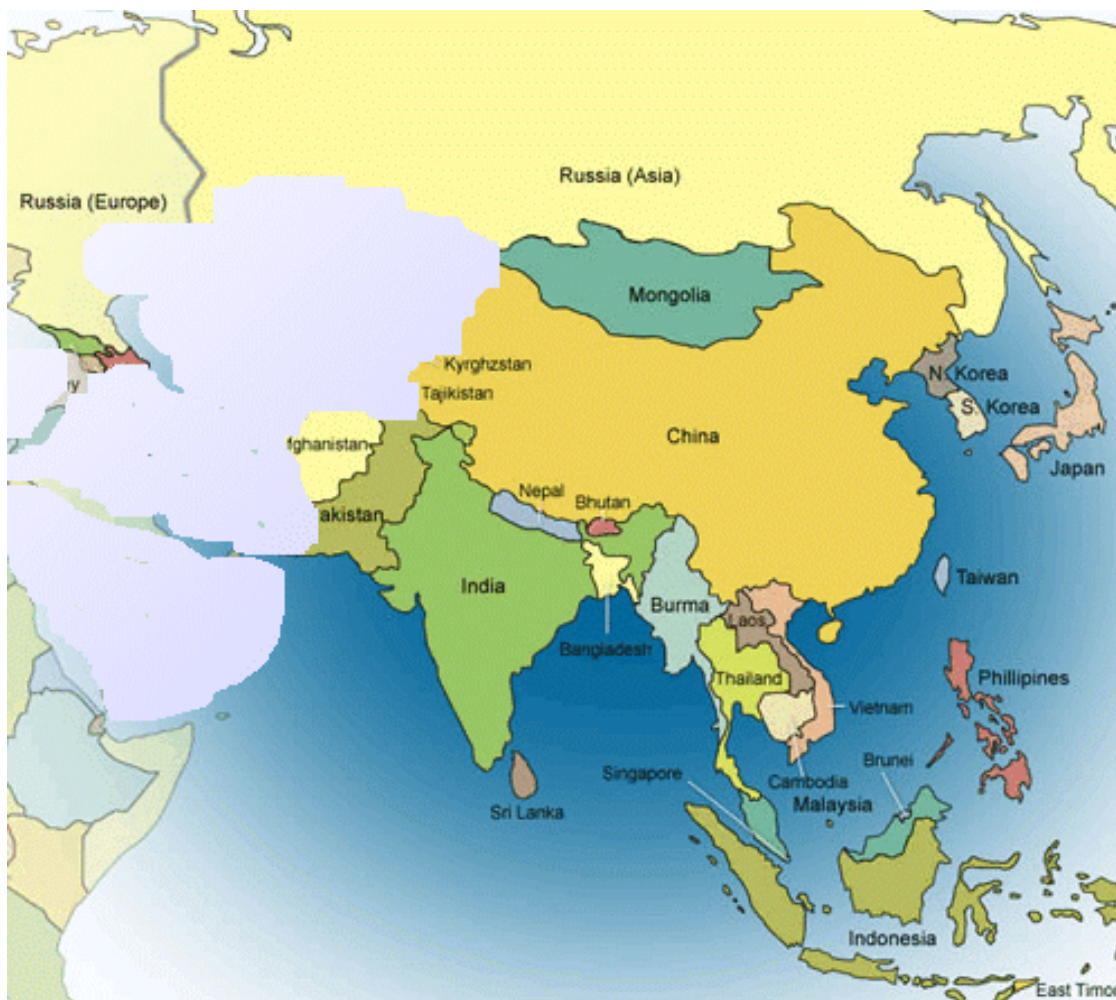
The UIA-Eurabia alliance was based on demographic, linguistic and cultural similarities, even though the UIA was a theocracy, whereas Eurabia remained a secular state which still recognized the separation of Church and State. Turkey was a bridge between the two super-powers, as it was a large Muslim but secular and somewhat democratic state. The alliance was of great benefit to Eurabia, which enjoyed cheap Middle Eastern oil in return for technological and educational support to the UIA.

Iran's behavior was more abrasive, although by no means hostile to Eurabia. The Islamic Republic had pursued a militant foreign policy ever since its foundation by the Ayatollah Khomeini in 1979, the Presidency of Mahmoud Ahmadinejad, and the removal of President Ghalibaf from his position by radical Mullahs. During the 21st century, the country gradually evolved into "Greater Persia," a major power representing most the world's Shiites. In 2055, Iran merged with Iraq (which, in turn, had already annexed Kuwait in 2045). In 2063, a brief war between the Islamic Republic of Iran (IRI) and the UIA resulted in the former's annexation of Palestine. By then, Palestine had itself been a sizable country consisting of Jordan, Lebanon, and all former territories controlled by Israel. Now this entire area became incorporated into the *Islamic Republic* ruled from Teheran.

Each successive Iranian aggrandizement was met with protests by the UIA as well as by Eurabia. However, neither of them had the belly for nuclear confrontation with the Islamic Republic. Eurabia had inherited Europe's pacifist attitudes, which remained its hallmark for the next centuries. As to the NAU, China, and the rest of the world, long gone were the days when any superpower would try to play cop and stand in the way of international aggression. The *Pax Americana* of the 20th century was not followed by a *Pax Sinica*, or by a joint UN effort.

Instead, the 21st century saw a regression to nationalism, national self-aggrandizement and balance-of-power diplomacy comparable to 19th century European politics. In that environment, the Islamic Republic's aggressive foreign policy was very rewarding.

Asia: United Islamic Alliance and Islamic Republic of Iran



Next on Iran's agenda was the "liberation" of Muslim Central Asia: As we saw, the continued depopulation of Russia made that country (now part of Eurabia) vulnerable to encroachment by its neighbors. Chinese migration into Russia began in the Far East during the first half of the century, and progressed into European Russia thereafter. By the turn of the 22nd century, Russia's Muslim underbelly, including some areas which remained within Russia after the disintegration of the Soviet Union, was ripe for the picking.

Unlike the growing Chinese presence in Russia - which consisted of millions of peaceful migrant workers - , the Iranian entry was a blatant military aggression.

The pretext for military action was Chechnya, which had been fighting to secede from Russia for over hundred years. Throughout the 21st century Iran sent “volunteers” to fight in Chechnya. This required transiting through Azerbaijan and Georgia. The former of these two was a Muslim state which abetted and even aided the transit of the Iranian irregulars. As to Georgia, it had been re-incorporated into Russia. Thus, entering it on the way to Chechnya represented an invasion of Russia and Eurabia proper.

But the Islamic Republic had greater ambitions than to assist the small Chechnian enclave. It also aimed to merge with the central Asian Muslim nations of Uzbekistan, Turkmenistan, Tajikistan, Kirghiz, and even the massive and distant country of Kazakhstan, thereby restoring the Sassanid Empire which had ruled over much of Central Asia from the third to the seventh centuries. By the end of the 21st century Russia lost all influence in central Asia. The area had long ceased to be the home of any ethnic Russians, who had failed to reproduce themselves. During the 22nd century, Persian forces moved into the central Asian republics. There was only minor resistance. Eurabia, urged by its Russian member state, was unable to do more than to file vehement protests at the United Nations. In this, she enjoyed worldwide support, including that of the other major powers, for example the NAU and the UIA. However, the only price paid by Iran was worldwide moral condemnation. Even trade embargoes and other economic sanctions remained topics of discussion, never implemented policy.

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Finally, recall that the 2040 Israeli Constitution was the death knell for Zionism. Between Israel’s transition to a non-Jewish state, and the failure of the Jewish population to reproduce itself, Israel simply evaporated. By the beginning of the 22nd century, the Jewish presence in Palestine was once again minimal and symbolic, as it had been from the Roman diaspora to the 20th century. There remained a few Jewish pockets in Palestine, but the total number of Jews there did not exceed 100,000. The rest moved, primarily to the NAU. There remained an independent state of Israel until 2091. 90% of its population was Palestinian, and it was surrounded by the country of Palestine, which by then consisted of Jordan, Gaza, the Westbank and parts of Lebanon. In that year, the Palestinian government formalized what had been a *de facto* reality for decades: It incorporated Israel into Palestine, leaving a four square mile area of Jerusalem centered around the Western Wall as an independent holy city. This became the “Jewish Vatican” of the world.

4. China and Japan: After the Chinese economy became the world’s largest in the late 2030s, its growth rate continued to outpace that of the other major economies. And even though the country did not maintain its torrid growth (which averaged over 10% per year during the first two decades of the century, 6.2% for the next thirty years, slowing down to 4% thereafter), by the end of the century its economy dwarfed all others. Chinese per capita income exceeded that of the NAU modestly, but since its population was more than three times larger, the overall size of its economy was immense. This discrepancy grew further in the 22nd century, as the NAU’s population declined (see previous chapter).

Furthermore, the Chinese economy became integrated with that of the other Asian economic super-powers - Japan and Korea - as well as with Vietnam and several other countries in East Asia. This union was formalized by the **2068 ACPA Treaty**, which gave birth to the Asian Co-Prosperity Alliance. Together, ACPA accounted for 56% of the world economy.

While Japan remained an important member of ACPA, its native population dwindled to such an extent that it was forced to import millions of workers from the Asian mainland. By the end of the century, fewer than half of Japan's 86 million people were Japanese. A nearly equal number were Chinese, and the rest were largely Koreans, primarily from the impoverished northern part of the peninsula.

China's political system evolved somewhat chaotically. Internally, there was periodic instability. One reason for this was that, having embraced capitalism, the country could not for ever be denied political democracy. Economic and political democracy are inseparable. In addition, not all Chinese benefitted equally from the country's torrid economic growth. Inequities were on the rise, as was public discontent.

There were periodic protests, some of which turned violent. While the ruling Communist Party was slow in permitting the rise of competing political parties, at least it allowed its hundreds of millions of industrial workers to organize. Thus, Chinese liberalization consisted primarily of a growing labor movement. As unions grew stronger and more numerous, so did their political activities. These consisted of both street demonstrations, in attempts at forming alternative political parties, and running for office at the local level.

On June 2, 2064, nationwide rallies were held to commemorate the 75 anniversary of the Tiananmen Square massacre. There was minor disorder in Shanghai, where two competing unions clashed over territory. Using this as a pretext, the Army moved in, presumably as a buffer between the two rivals groups. This, however, triggered working-class solidarity, with the resulting fight pitting government forces against both groups of workers, several hundred of whom were mowed down by the army's electronic laser guns.

But this was the authoritarian regime's last gasp. The resulting nationwide protest was so massive that the government had no alternative but to legalize the opposition party, the **China Democracy Party**, which had long enjoyed the support of millions, but had nevertheless continued to be harassed by the authorities.

From 2064 onwards, China enjoyed a multi-party system. Initially, this consisted of only two parties - the Communists and the China Democrats, who were essentially Socialists. But by the turn of the 22nd century, there were several additional parties, including that of the growing **Tai Chi Chuan** movement. This philosophical movement gradually morphed from a soft sort of martial art into a social and political organization. Its agenda was both inner-worldly and mystical. At the political level, it advocated economic measures based on altruism and asceticism, i.e. an equitable but reduced level of material consumption. As a religion, the movement believed in re-incarnation, and the universal seven-life cycle granted to all people of modest virtue. However, the number of cycles granted to individuals varied for cases of extreme "goodness" and "badness." The **Mencius** research center in Beijing, founded in 2066, made impressive progress in establishing scientific evidence of the existence of the seven-life cycle. By

the middle of the 22nd century, Chinese scientists conducted laboratory experiments in which they produced evidence of *physico-spiritual* connections between some subjects' past, present and future lives.

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China managed to control its other two potential domestic flashpoints, too: One of these was Tibet. By mid-century, unrest in that province abated, because it was met with unanimous Chinese hostility. Tibetan liberation was a non-starter, since a billion and a half Chinese massively supported the authorities, as these easily ignored, repressed, appeased and otherwise put an end to a rebellion which was weak and viewed as representing a handful of aging monks. Tibet gained semi-autonomous status within the Chinese People's Republic, a compromise which satisfied all parties.

Somewhat more serious was the scattered Muslim violence, taking place primarily at the confines of Kazakhstan, Uzbekistan, Kyrgyzstan and other parts of Central Asia which became parts of greater Persia. However, the government handled these conflicts effectively (occasionally harshly) as well, nipping them in the bud.

All in all, the 21st century can be said to be the Chinese century, as the 20th was the American century. Chinese success was rooted in several factors. One was the country's great homogeneity. 92% of the population consisted of Han Chinese. This translated into stability and a common stance towards both external and internal threats, whenever they occurred. Furthermore, China's Confucian tradition made it one of the world's most *pragmatic* countries. Its foreign policy was guided by the old Confucian adage advocating "expediency over ethics." China was able to *finesse* international problems. Its global strategy resembled 19th century British practices.

The United Kingdom had run its empire successfully through a pragmatic policy of indirect control, collaboration rather than confrontation, and taking advantage of opportunities rather than persevering in the pursuit of losing propositions. For example, Britain wisely gave up its wasteful and futile effort to hold on to its North American colonies, instead turning to the much more profitable colonization of India. 19th century British imperial success was not so much a case of "splendid isolationism," as "splendid opportunism."

China's success on the world stage throughout the 21st and 22nd centuries resembled the British success 200 years earlier. Some would simply call this *intelligent* politics. Of course, the *sine qua non* of all superpowers is immense economic, industrial and military backup. However, such might is no guarantee of superpower status. It only leads to lasting superpower status when it is combined with political wisdom.

What does it take to be a successful Superpower?

Take the following list: (1) Ancient Rome, (2) Imperial Spain, (3) the British Empire, (4) the United States, (5) 20th century Germany, (6) the Soviet Union, (7) Japan and (8) China: All eight possessed or developed enormous economic and military resources. Yet only Ancient Rome, the British Empire and China were unequivocally successful. These three societies remained superpowers for a very long time, and their eventual decline was not immediate or catastrophic. On the other hand, Spain, Germany the Soviet Union and Japan were short-lived and unsuccessful, some spectacularly so. Germany and Japan failed as superpowers because they were led by psychopaths. The USSR failed because it was ruled by zealots, as was Imperial Spain.

The case of the United States is special and ambiguous: As long as that country was guided by pragmatism, it was a successful superpower. However, once it ended up relying excessively on naked military power rather than on diplomacy and international coalitions, and after it squandered its industrial base, its status as a superpower was sealed.

China, then, became the next *successful* superpower. It handed its relationships with its neighbors, for example, through the astute use of diplomacy and cooperation, rather than through military threats and confrontations. By 2120, these neighbors included not just Russia, as in the past, but also the aggressively expansionist Persian Islamic Republic. The Sino-Russian relationship was potentially explosive, as dozens of millions of Chinese guest workers now lived in both Asian and European Russia. Yet, the political and economic relationship between the two countries remained harmonious. Russia was now merely one of Eurabia's constituent states, and Eurabia was as aversive to confrontation and as cooperative as China.

Only the relationship between China and the Islamic Republic required constant vigilance, but there, too, China managed to avoid major conflict.

Taiwan was another potential hotspot, this one inherited from the 20th century. But once again, China succeeded in solving this issue peacefully. In 2073, Taiwan became reintegrated into the People's Republic of China as the country's 6th autonomous region. The transition was nearly as peaceful as that of Hong Kong had been in 1997. There was some minor Taiwanese protest and some sporadic violence, as the island nation had developed a sense of nationhood during its 124 years of existence as a separate nation. However, the NAU had long withdrawn the protective military umbrella which enabled Taiwan to remain independent. The NAU lacked both the will and the ability to resist the reintegration of the island into mainland China.

China's relation with the NAU did not quite live up to the idea of "*Chinamerica*." This was a concept launched during the first decade of the 21st century to suggest that the two powers could, together, create a commercial system which would benefit them both and dominate the global economy. Still, China's relationship with the NAU remained solid, based on mutual economic advantage.

At the same time, the Chinese government did snicker and smile when the NAU became

terribly bogged down in Kashmir in the latter part of the century (see Chapter Three), in its occupation of major parts of South America, and in its standoff with Eurabia, shortly after the beginning of the 22nd century. After all, as long as these military adventures kept sapping NAU's strength, China's dominance of the relationship was assured. Confucius never said that "my competitor's weakness is my fortune," but he could very well have.

Japan remained the NAU's best friend in Asia. That country, although increasingly dependent on China, remained a bridge between the Asian superpower and the NAU - carefully. Its role was comparable to that of the United Kingdom, which was the only part of Eurabia that still occasionally sided with the NAU at the United Nations.

Of course, the Japanese economy was far more tied to that of China than to the NAU's, especially after passage of the *ACPA (Asian Co-Prosperity Alliance) Treaty in 2068*.

For example, the two Asian countries pooled their resources to lead the world in space exploration. Between 2050 and 2088, the space stations *Shenzhou 15*, and *16* were built, serving as platforms for the exploration of Mars and some of Jupiter's moons. Landings of robots on *Europa* were planned. Of all the bodies in the solar system, Jupiter's sixth moon was the most likely to harbor life, at least at the sub-oceanic level. There were also plans for the on-sight exploration of *Io*, Jupiter's innermost moon. This was perhaps the most ambitious project, as *Io* was a highly volcanic body utterly inhospitable to any form of life. However, it was rich in some of the most useful industrial minerals, which the Chinese and their Japanese partners were eager to exploit.

Many of the scientists who worked for the ACPA Space Agency came from North America. After all, the United States had led the space race until well into the 21st century. As the NAU's economy subsequently declined and its space program withered, China and its Asian partners wisely began to engage America's top brains, and they soon became the world's uncontested leaders in space.

However, the colonization of solar planets and their satellites was laborious, expensive, frustrating and of questionable value. It was marred by disasters. These included the explosion of the space station *Shenzhou 16 in 2085*, in which the entire population of more than 300 space workers living on the station perished, and the loss of the first four space ships returning from *Io* loaded with mineral samples.

During the 2060s, Japanese scientists discovered large deposits of *pure* lithium on Jupiter's *Io*, something which does not occur on earth. In addition, *Io* was also found to possess large deposits of uranium and tungsten. These minerals are of great importance as fuel (uranium) and in industrial manufacture. Tungsten's extremely high melting temperature makes it uniquely useful in electronics and machinery. Lithium is an important component of polymers and other compounds. However, lithium's melting and boiling temperatures are very low. The ACPA Space Agency attempted to transport back to earth samples of these two metals together, using its tungsten cargo as a protective shell for the highly volatile lithium. Alas, the average return trip from *Io* took over three months. During that time, the cargo ships were invariably exposed to solar flares, some of which caused enormous proton storms that bombarded the space ships with heavy radiation. After the loss of its first four ships, the Agency went back to the drawing board, realizing that it could not begin to exploit *Io*'s riches until it solved the solar proton radiation

problem.

Asia's Martian settlements presented a somewhat brighter picture. By the middle of the 22nd century, the permanent Martian colony had a population of over one hundred thousand people, one third of whom were born on Mars.

However, there was a debate raging about the value of Martian colonization. One side saw the program as a bottomless pit swallowing up trillions of dollars for no apparent benefit. And indeed, the effort required a huge outflow of resources from Earth to Mars. To support human life on Mars required the massive export of commodities, raw materials, food, water and finished products to that planet.

On the other hand, there were optimists who predicted that the cost-benefit imbalance between Mars and Earth would be reversed by the end of the century, for four reasons: (1) By then, the Martian population would be largely self-supporting. (2) Thus, Mars would begin to function as an escape valve for excess terrestrial population - as the Western Hemisphere had been for Europe in the 19th century. Furthermore, Mars would help to protect the Earth's environment, as (3) the manufacture of more and more environmentally damaging products (E.g. batteries, air conditioners, refrigerators) would be shifted to the Red Planet and as (4) the planet increasingly functioned as a disposal site for the earth's worst waste products, for example nuclear waste.

We shall see in the following chapter that both sides were right: In the short term, Martian colonization was a disaster. In the long run, a success.

One other major technological contribution by China during the first part of the 22nd century was the nuclear airplane. This saved suborbital flight (air travel) from extinction, as the earth's supply of fossil fuels was nearly exhausted.

5. South Asia: The Taliban government which came to power in Pakistan in 2017 (see Chapter Two) was still in charge fifty years later. This regime's handling of the Kashmir issue was more confrontational than that of its predecessors - President Pervez Musharraf and the "parliamentary military" alliance which followed him. Border warfare and incursions into India's Punjab and Himachal Pradesh provinces were now constant, largely coming out of Pakistani Kashmir. India maintained a powerful border force which fought defensively as well as offensively. The latter meant that it occasionally invaded most of Kashmir, including the areas controlled, contested or claimed by Pakistan. After a police action in Pakistani Kashmir, the Indian forces would typically pull back into Southern Kashmir and across the Indian border - only to have to repeat a similar campaign a year or two later.

In 2064, a large Taliban-led Kashmiri force penetrated deep into Indian Punjab, rampaged there for several weeks and caused thousands of deaths among the civilian population. This time, India retaliated by permanently occupying *all* of Kashmir, including the North. After fierce combat that lasted seven weeks, India was able to expel Pakistan from Kashmir altogether. The Taliban gave India an ultimatum - withdraw or face nuclear attack. Unable to stand down, both countries launched their nuclear missiles simultaneously. The worst devastation occurred in Kashmir itself. Both countries began to use tactical nuclear weapons on the battle field in the contested province, attempting to defeat and dislodge each other from it. However, Pakistan's capital city, Islamabad, was dangerously close to the battle field, and a stray Indian *Sagarika*

missile landed in the suburbs of that city, causing 30,000 immediate deaths, an estimated 300,000 delayed deaths, the evacuation and exodus of the remaining seven million inhabitants of the metropolitan region, and the relocation of Pakistan's government to Karachi.

The Pakistani missiles did much less damage to India's cities and its civilian population. However, the Taliban government now threatened to retaliate massively against all of India's major urban centers.

The United Nations, which had been deliberating feverishly in New York for two weeks in an attempt to de-escalate the conflict, now began to act more forcefully. After all, the world was facing the possibility of the incineration of the Indian subcontinent, which housed one fourth the world's population. The Security Council, of which India was now a permanent member, voted unanimously to impose an immediate cease-fire on both combatants and to dispatch a U.N. peace-keeping force to Kashmir. India and Pakistan were ordered to remove all their forces from Kashmir, under penalty of a worldwide military blockade and the cessation of all economic transactions with both countries.

The pressure worked. The expansion of the nuclear war was averted, while the UN met in haste to cobble together the necessary international peace keeping force. Logically, troops would be provided, first and foremost, by the three major world powers - China, Eurabia and the NAU - plus a few other large countries. However India, a member of the Security Council, promptly vetoed the participation of Muslim nations such as Indonesia, the United Islamic Alliance and the Persian Islamic Republic, as they would obviously favor Pakistan.

While India realized that Eurabia's impartiality was also suspect, it reluctantly acquiesced to a minor role for that Confederacy. As to China, the world's number one power, it played its usual cautious role, accepting to support the peace keeping operation only in a back-up capacity. That is, it committed itself to providing a peace-keeping force which would offer logistical support but not engage in combat operations, and it promised surveillance services in the form of satellite monitors and a large fleet of armed drones.

This left most of the heavy lifting to the NAU. Once again, America was to provide the bulk of the force directly in the line of fire and directly responsible for peace keeping. The force had to be very large, in order to control Kashmir - a vast, devastated area inhabited by eighty million angry, lawless, desperate people. Of the one million blue helmets sent to Kashmir, two thirds came from the NAU. India was delighted, as the NAU had always been its greatest friend among major world powers.

For the NAU, the occupation of Kashmir became one more endless quagmire. (See Chapter Three). The initial American contingent consisted of 19 divisions drawn from Mexican, Canadian and US infantry, and 12 brigades of special forces cobbled together from army and marine units traditionally drawn from the former United States. China "generously" offered to underwrite much of the cost of the operation, effectively reducing the NAU to mercenary status.

By the end of the century 35 years later, the operation was still under way. Year after year the American public expressed its displeasure with it and pressured the government to withdraw from Kashmir. However, the best that the government could do was to gradually reduce its presence in that region, not to phase it out. By the turn of the 22nd century, total UN troops in

Kashmir were reduced to half a million, two thirds of which were from the NAU. Over the previous 35 years, over 150,000 UN soldiers had died, two thirds of them Americans. The local population viewed the UN not as a peace keeper, but as an invader and an occupier, as did a majority of Pakistanis and even many Indians.

While the bloodletting was one more factor sapping the NAU's resources and aggravating its long-term decline, India was hurting even more: The nuclear war with Pakistan was followed by decades of immense sectarian violence within India. Such violence affected India far more than Pakistan, as the former country housed several hundred million Muslims confronting its Hindu majority, whereas Pakistan was homogeneously Muslim. In India, acts of terrorism were a daily affair, killing thousands of civilians in Mumbai, Calcutta, Delhi and its other cities. Worse, there were break-away tendencies in some of the provinces, requiring the government to send in the army to squelch them. All this disorder took a toll on India's economy. During the early part of the 21st century, India had vied with China as one of the upcoming economic giants. A century later, China's economy dwarfed that of India, which remained a coherent democracy, but struggled with enormous continued poverty.

6. Africa: The good news for the dark continent during the 21st century was the end of the AIDS epidemic. Through medical intervention and through the natural development of resistance, the HIV-induced death rate gradually became negligible. By mid-century, the plague had run its course, after killing one third of Africa's population, following a path similar to the one taken by the black plague in Europe during the 2nd half of the 14th century.

The bad news? Everything else:

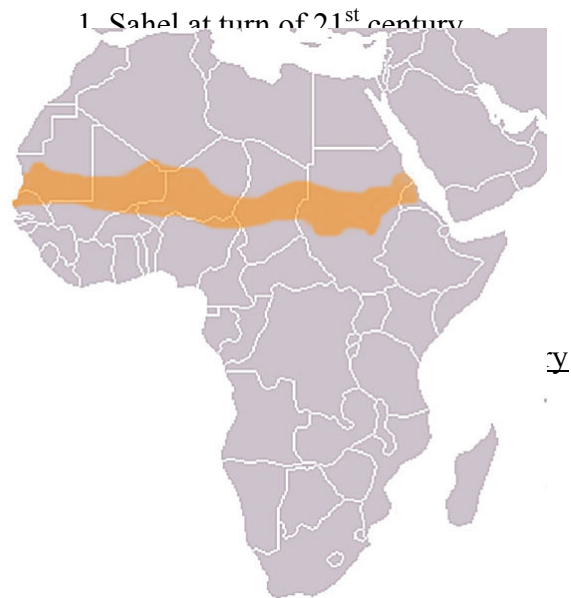
For starters, the end of the AIDS epidemic did not stop demographic decline. That epidemic received generous assistance from the two other horsemen of the Malthusian Apocalypse - starvation and war. By the end of the 21st century, Africa's population was down to 470 million, roughly what it had been in 1980. It had peaked at 1.2 billion in 2016. Starvation caused more African deaths than war and disease combined. Each year Africa needed to import more food from a world which itself suffered from increasing food scarcity.

The primary cause of Africa's agricultural devastation was global warming and the swift expansion of the Sahara. At the beginning of the 21st century, the Sahara's southern edge was close to the 15th parallel. Below that was the *Sahel* - a semi-arid region separating the desert from the Savannas and forests to the South. The Sahel ran Africa's entire width of 4000 kilometers, from the Atlantic to the Red Sea, and it was about 650 kilometers wide on average. It covered much of the territory of Senegal, Mauritania, Mali, Burkina Faso, Niger, Nigeria, Sudan and Eritrea.

A century later, the Sahara had taken over the *entire* Sahel, and then some. The desert's Southern edge moved 5 to 10 degrees South - beyond the 5th parallel, i.e. from 700 to 1200 kilometers South of where it had been one hundred years earlier. An area of over six million square kilometers - two thirds the territory of the former United States - was desertified. Most of the countries just listed were largely reduced to desert, along with some parts of Cameroon, the Central African Republic, Congo and Ethiopia (See Map).

Sahara Takes over Sahel, and then Some

1. Sahel at turn of 21st Century



2. Expansion of Sahara by turn of 22nd Century



These countries sent massive streams of refugees in two directions: To French West African countries such as Cote d'Ivoire, Gabon, Congo-Brazzaville and Guinea, and South to Kenya, Uganda, Tanzania, Zambia, Mozambique, Malawi. The recipient countries could hardly accommodate these millions, who increasingly holed up in the massive shanty towns of such cities as Abidjan (2095 population: 27 million) and Nairobi (2095 population: 37 million).

Wars: African wars remained abundant throughout the century and beyond. Having been burnt once again during the 2032-2034 Central African War, the NAU wisely refrained from further military involvement thereafter. The rest of the world was more ambivalent, depending on its economic interests. China, Eurabia and India tended to use the United Nations as proxies, occasionally directing that body to send a peace keeping force to some African trouble spot, generally cloaked as a humanitarian intervention, but in truth usually dictated by economic interests.

The two powerful Middle Eastern nations - the Islamic Republic of Iran and the United Islamic Alliance - were more blunt in their African interventions: After the NAU ceased to have either the capacity or the interest to check Islamic expansion, Africa was ripe for the picking by the two new Middle Eastern mega-powers.

There were three factors in the 22nd century Islamic penetration of Africa:

(1) Mineral resources - oil, diamonds, uranium - which made countries such as Nigeria, Congo and Sudan especially attractive.

(2) Religion, culture and ethnicity: Many central African countries (including Nigeria and Sudan) had been partly or largely Islamic for many generations, often experiencing protracted religious wars. The further Islamic push throughout the 21st century was an effort to wipe out remnants of Christianity, animism and whatever other competitors to Islam remained.

Muslim success in subjugating vast areas of Africa varied. In countries such as Sudan and Somalia, success was nearly total. Elsewhere, not so. For example, neither of the two great Middle Eastern powers were able to secure Congo, Ruanda and Burundi into their spheres of influence. While the Middle Easterners were welcomed by the Hutus, they were opposed by the Tutsis, that pesky, clever and powerful minority which remained in control of much of East-Central Africa, where civil war became a permanent condition.

(3) Slavery: Finally, the subjugation of large parts of Africa by the Islamic world led to the re-introduction of large-scale **slavery**. The expansion of the Sahara and the general ecological and agricultural disaster which befell Africa created dozens of millions of refugees, massive starvation and unemployment. These refugees were an enormous source of cheap labor, and from mid-century onward, millions of Africans were forcefully exported to the Islamic Republic of Iran and to the United Islamic Alliance. There, they were corralled into labor and re-education camps. Conversion to Islam was the first order of business, and it was mandatory. Then, workers were assigned *for life* to specific companies, which enjoyed *de facto* ownership rights over them, including the right to force or deny marriage and parenthood. Some of the forced laborers were required to reproduce, others were sterilized. The triage was based on eugenics and DNA

research, scientific fields which made enormous progress. The primary recipients of the African “labor transfers” were the two great Islamic states, but a significant overflow also ended up in Eurabia. France, for example, which was an overwhelmingly Muslim region within Europe, had several million such laborers.

“Labor transfer” was one euphemism used to refer to these practices. Other ones included “labor re-allocation,” “labor utilization” and “African labor export.” However, anyone who was minimally lucid could see that the appropriate word was *slavery*.

There was no dearth of critics - in the media, among governments, among the public. The United Nations held increasingly acrimonious debates about the subject. These bogged down in terminology. The General Assembly could not even agree on what to call the “African labor transfer policies.” Whenever a representative from the NAU or from Africa used the word “slavery” in his condemnatory speeches - and this happened often - representatives from the IRI and the UIA stomped out demonstratively.

Meanwhile, China and others were, as always, more opportunistic. In order to protect its world-wide interests, the Asian super-power preferred to look the other way, rather than to confront the slave-trading nations. Thus, slavery made a vigorous worldwide come-back, and it thrived.

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Piracy: A second medieval abomination which returned in full force during the 22nd century was piracy. And this, too, occurred primarily around the edges of the cursed continent of Africa, especially East of the Horn. There, the Red Sea, the Gulf of Aden and the Western Indian Ocean provided the most propitious environment for preying upon maritime traffic. Somalians had pioneered the revival of piracy at the beginning of the 21st century. Later, they were joined by privateers from other countries in the region, including Eritrea and Kenya.

The primary responsibility for fighting piracy would seem to have fallen on the United Islamic Alliance, aided by Eurabia and the IRI. After all, the bulk of commerce in those sea lanes belonged to those countries. However, the steps taken by those governments were half-hearted and perfunctory, as they turned a blind eye to the growing maritime lawlessness in their backyard.

Why?

In the first place, the two great Muslim powers had an unspoken sweetheart deal with the African pirates: These were given a free reign as long as they left Muslim ships alone and preyed only upon other nations, i.e. ships belonging to India, China, the NAU or any other country. Furthermore, the Muslim governments welcomed the maritime instability caused by local pirates, as it reduced ship traffic of non-Muslim provenance and gave their fleets a quasi-monopoly in their backyard.

Other governments made periodic attempts at combating the selective piracy taking place in the Indian Ocean. For example, India would occasionally send a carrier task force to engage the pirates, as would even China, other Asian countries, and the NAU on a rare occasion. However, only a concerted United Nations campaign could have put an end to this plague, and there was no chance of this happening.

By the second decade of the 22nd century, pirates highjacked about twelve ships every month, mostly belonging to India, China, Japan, the NAU and assorted other countries. Between ransoms, stolen cargo and lost property (for example destroyed hijacked ships), the cost amounted to approximately 15 billion *solars* a year, plus over one thousand lives lost every year, most of them among ships' crews. The world accepted this as the cost of doing business.

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During the 22nd and 23rd centuries, South Africa was the most prosperous region on the Continent. Not that it was free from problems. Just that it had not been as severely impacted by the disasters which befell the rest of Africa, including the consequences of global warming, the Muslim expansion, and the wars, starvation and severe economic decline that ensued.

By 2050, South Africa had succeeded in fully absorbing and pacifying Zimbabwe. Fifty years later, Namibia, Botswana and parts of Mozambique also joined the Republic in a large union called the *Unified South African People's Democracy*. The standard of living in the *USAPD* was the highest in Africa.

Thus, the 22nd century saw a continent where three peripheral areas survived under relatively viable conditions: (1) Greater South Africa, (2) some parts of French West Africa, for example Senegal and the Ivory Coast. (3) Egypt, which belonged to the United Islamic Alliance.

As to the rest of the continent - East Africa and the entire interior - there, conditions had regressed to a level of primitivity approaching prehistoric conditions.

7. The Global Scene:

A. Politics, Language and Culture: By the 22nd century, the planet was no closer to World Federalism than hundred and fifty years earlier, at the foundation of the United Nations. That body still carried "moral" weight, and it occasionally conducted international peace keeping campaigns in some of the world's hot spots, but it was as powerless as ever to implement the vision which had led to its creation - that of a peaceful and orderly world organized under one unified government.

There were both centrifugal and centripetal forces at play in the world. That is, there was a trend towards unification of small states into larger unions. This led to the NAU, Eurabia, the United Islamic Alliance, the Islamic Republic of Iran, the Unified South African People's Democracy, the Asian Co-Prosperity Alliance, etc. Yet at the same time, the law of entropy was very much at work, too: Piracy was a growing curse, as was slavery. Lawlessness was the norm in most of Africa, in parts of the Indian subcontinent, in parts of South America, the Pacific, and in other parts of the world.

In 2033, the UN General Assembly voted to move its headquarters to Geneva, after the worldwide condemnation of the United States for using nuclear weapons in Africa. America's Republican President Huntington, elected in 2032 by a surge of conservative isolationism, would have been all too happy to comply. His more rabid supporters in fact wanted to *eject* the UN

from New York. However, America soon returned to sanity, electing the Democrat Michael Lopez-Garcia Della Fuentes to the Presidency. Under his administration, the United States vetoed the proposed move to Geneva, as it also restored its international stature.

Yet, during the course of the 21st century, sentiment favoring the move persisted, especially in Eurabia and in the Middle East. As the century progressed, the North American Union had increasing difficulty coping with the economic problems it inherited from the United States, Mexico and Canada. Those countries had suffered from giant government deficits and catastrophic trade deficits for three quarters of a century. North America, unified or not, was descending into poverty and into Third World living conditions. By the late 2070s, the NAU had become indifferent to the United Nations, which became a financial liability. When Eurabia, the United Islamic Alliance, the Islamic Republic of Iran, India and a majority of the other member countries once again urged the body to consider moving, the NAU finally dropped its objections.

In 2085, UN headquarters finally moved to Geneva. This was viewed as a great symbolic victory by some, particularly the French segment of Eurabia. Although French was the native language of fewer than 2% of the world, it remained one of the five official languages in most international settings, including international trade organizations, NGOs, the Olympic Games, patenting, licensing and copyright agencies, and of course the United Nations and all its affiliates. The other four world languages were Mandarin, English, Spanish and Arabic.

LANGUAGES; EACH BEST SUITED TO ITS PARTICULAR STRENGTH

Linguists and many laymen have long understood that languages differ in their character, and in their ability to apprehend different aspects of human experience. Languages embody the particular circumstances of the people who use them. Anthropologists have provided many examples such as the richness and complexity of the Arctic Inuit language when dealing with snow and ice, that of Arabic when dealing with camels and desert culture, conversely the absence of a word denoting a camel in *Inuit*, etc.

Different languages are good at different things, developing in response to the specific circumstances of the people who use them.

Among the five languages which dominated the world by the end of the 21st century, French had a special place. Its survival as one of the “Big Five” was not due to its large constituency. Each of the other four languages - Mandarin, English, Spanish and Arabic - was spoken by more than a billion people. On the other hand, fewer than 200 million spoke French as their native tongue. Nor was that language’s continued membership among the big boys due to the tenacity of French cultural chauvinists. No. It was, in one word, the result of *prestige*. French became the Latin of the third millennium. Just as Latin survived for thousands of years as the official *ecclesiastical* language long after it died as a *popular* language, French retained a corner on *culture*, even as fewer and fewer people spoke it. Culture, then, was what French increasingly became about, including art, literature, music and theater.

Similarly, each of the other four world languages had its own personality. English had long been the language of *action*. Think of expressions such as “jumping to conclusions,” “taking charge” and “beating the odds.” (See Madeleine Kando, *You Are What You Speak*, European-American Blog, December 28, 2008). Few other languages express ideas in such a direct, clear, forceful and action-oriented way. However, the growing Hispanization of the NAU and the emergence of Spanglish attenuated this somewhat.

Spanish remained the language of love and poetry, as did Italian, still spoken by millions.

The character of Mandarin was ambiguous: At the beginning of the 3rd millennium, that language still did not possess a western-style alphabet, consisting instead of thousands of characters, each referring to a concept, i.e. a “word.” However, by the middle of the 21st century, the Chinese followed the Japanese lead and introduced a phonetic alphabet. This transition was long overdue, as traditional Mandarin script was too cumbersome to deal with complex technology. At the same time, Mandarin retained a special strength in the handling of philosophically and politically ambiguous issues, in contrast with Western languages. The latter treat issues in clear, Aristotelian, black and white fashion: Something is either true or false, positive or negative, good or evil, beautiful or ugly.

On the other hand, the Chinese language recognizes ambiguity, and Chinese politics reflect this, both domestically and internationally.

Finally, Arabic became increasingly the language of commerce. By the 22nd century, a new blend of Egyptian and Gulf Arabic evolved. Remembering that Algebra was an Arab creation, linguists noted the language’s special affinity for quantification.

But French enjoyed a special status: Like Latin for nearly 2000 years, French remained the language most often used in diplomacy, because the French managed to convince the world that their language was the best suited to discuss matters of culture, values and morality. In Eurabian

Minister of Culture Jacques Frontenac's provocative words spoken on the occasion of the UN's move to Europe in 2085, French remains the "immortal language, the language of transcendence."

The United Nations' move to Geneva enabled the Eurabians, led by the French, to finally claim to be the planet's moral and spiritual headquarters, as had been the Vatican in Rome for the previous two thousand years, or the Nobel Prize in Scandinavia for the past two centuries.

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Much of the world's culture changed into a blend of politics, entertainment, science and spirituality. Famous and powerful politicians transcended traditional boundary lines. A popular singer could simultaneously be a major political figure, as could a spiritual guru or a Nobel scientist.

Because the world was moving into an electronic virtual reality, popular cultural icons played an increasingly important role in politics and in economics. Early in the 21st century, Arnold Schwarzenegger was the exception in such a role transition. Later, such cross-overs became common. A prime example was *Joe Ballow*, the gay neo-pagan singer who was elected President of the NAU in 2088.

Another one was Eurabia's President from 2105 to 2119, *Helga Aziz*. She was a former German Olympic snow dancer. She won the gold medal at age 17 in that event at the 2072 winter games in Riyadh, where the UIA government built a vast, domed, artificial winter environment for the games. Subsequently, Ms. Aziz formed one of the world's most popular snow dance troupes, with which she toured the world's continents for over three decades. When she was 52, she parleyed her popularity into the presidency of Eurabia.

Thus, by the early 22nd century, a majority of society's movers and shakers, beginning with many of the world's heads of state, were people who had first made their mark as famous musicians, artists, scientists, businessman, athletes, actors or spiritual leaders. Perhaps Plato would have approved.

In most countries, the sharp division between church and state disappeared. In the two major Islamic States - the UIA (United Islamic Alliance) and the IRI (Islamic Republic of Iran) - religion of course played a leading role in politics. While Eurabia was more secular, there, too, state-sponsored worship was authorized. Neither did Eurabians object when the country's President surrounded himself with a counsel of religious elders to help him determine policy.

In China, the NAU and elsewhere, the re-introduction of religion into politics took a milder form. What penetrated politics there was a more spiritual, abstract, ecumenical and philosophical form of religion. For example, the NAU passed laws which mandated a daily environmental prayer in every school. The prayer contained a daily celebration of the natural environmental, a confession of guilt for having done damage to it, and a promise to redouble one's contribution to saving it.

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B. Technology: We saw earlier that, during the 2nd half of the 21st century, the Internet split into several regional networks. These were incompletely linked together into a loose network called the *Interweb*. This happened because of (1) national rivalries over control of the Internet, and (2) differences of opinion over how much freedom the Internet should enjoy. The NAU, which had launched the Internet nearly a century earlier and dominated it until recently, favored maximum uncensored freedom. The other major world powers saw this as anarchy, not freedom. The Middle Eastern governments wanted to impose severe censorship on electronic communication, entertainment, commerce and politics. China was not quite as severe, and Eurabia was even more tolerant. But none of these governments were as permissive as the NAU. After the fragmentation of the World Wide Web, each region raised formidable fire walls to minimize “contamination” by the others.

Each of the four or five regional systems provided the same technology - all the components of *virtulife*, a U-tube service that could alter your entire residence into a theater-like environment, virtual commute to one’s place of work, to school, to a hospital, to a vacation resort and to other destinations.

What differed was (1) the technical quality of the services, and (2) the amount of control by the respective regimes. For example, while the residents of the NAU could access practically anything they desired (as long as they were rich enough) their servers, browsers and search engines frequently broke down, and services were slow, even for citizens with state-of-the-art computers and vast amounts of RAM. On the other hand, the Chinese people enjoyed flawless, high-speed connection and surfing of their Internet, but much of the time they received the stern, single-word message “Unauthorized.”

In 2069, The Eurabian Parliament shut down Google as the Continent’s major search engine, which it could not control, and replace it with *Euroka*, which it could. The French delegation, lead by the Alsatian Chef Thomas Frankenstein, had argued for several decades that Google was a mouthpiece of Anglo-Saxon cultural hegemony, and that European culture could only survive if it controlled the information flow to its own citizens.

Twenty two years later, China did the same thing, creating its own search engine, *Asixie*. As the different parts of the world started to use different search engines, this led to different definitions and conceptions of reality. For example, a NAU citizen researching, say, *diet*, might readily find information about meat, proteins, caloric intake, and their financial cost. On the other hand, a Eurabian citizen doing likewise, would first hit various references to ethnic and cultural dietary variations across the world. In China, an Asixie search on the same topic might yield many entries about government dietary regulation and the various health aspects of different diets.

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While communication was overwhelmingly electronic, there remained the need for a minimum amount of physical transportation. Goods still had to be shipped to markets, and millions of people still had to move to their work sites. As the supply of fossil fuels dwindled, there was a worldwide regression to earlier forms of locomotion: I have already mentioned that the steam engine made a major come-back not only in railways, but also as private automobiles. So did electric trolley cars in inner cities, and cars were increasingly replaced by bicycles, mopeds, scooters and other two-wheeled vehicles, both motorized and human-power driven.

By the 22nd century, China, India and the NAU used coal for 40% of their energy needs. In addition, electricity produced largely by nuclear power plants and hydro-dams filled 35% of

the energy needs of China, Japan, Korea and of the rest of East Asia.

It took Eurabia and the Middle East longer to deplete their oil and gas reserves (including those in the Arab world, in the North Sea and in Russia). The energy crisis did not hit those countries as violently, especially since they did not rely on the private automobile as much as North America did during the 20th and early 21st centuries. Europe's transition to alternative energies was therefore less traumatic and less economically damaging.

One of the world's greatest challenges was how to perpetuate air travel. By 2075, world petroleum reserves were approaching complete depletion. Even if the day of reckoning were to be postponed by a few decades, the final exhaustion of the only fuel available to jets was in sight. What then? Would the world return to full surface transportation - trains and steamships? Or would mankind go back to lighter-than-air flight - dirigibles, balloons, zeppelins?

As we saw in the previous chapter, a stop-gap measure was to ration and to prioritize petroleum distribution, putting airlines at the front of the line. However, this was only a temporary solution.

Meanwhile governments, with China and Japan in the forefront, were feverishly seeking new technological breakthroughs. Billions of research money were spent on electric airplanes, with little success. It was finally on the nuclear front that the breakthrough occurred: In 2137, Chinese scientists succeeded in producing cold fusion. The following year, Chinese and NAU naval scientists used their long experience with nuclear submarines to develop a concise nuclear reactor for jet airplanes. Thus the world was assured that air travel and air transportation would not become something of the past.

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C. The Economy: The 21st and 22nd centuries were an era of *de-globalization*. Globalization had been the buzzword and the reality of the late 20th and early 21st centuries. During those heady days, the world was run by the US Republican Party, multinationals, Wall Street and the disciples of Adam Smith, Milton Freedman and Alan Greenspan. All this came to an abrupt end in 2008, when the "once-in-a-century Tsunami" (Alan Greenspan's words) hit. Thereafter, the world went into reverse. Fragmentation, Mercantilism, Protectionism, Nationalism and Isolationism replaced globalization and free trade.

Thus, the fragmentation of the World Wide Web was just one symptom of de-globalization. The major regimes of the world not only broke up the Internet, they also began to develop different procedures, protocols, languages, agendas and measuring scales, all in the pursuit of their national self-interest, which they saw in conflict with those of other nations.

For example, the width of railroad tracks in China was deliberately altered to differ from that across the border, as a military precaution.

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During the great economic recession of the 2010s, the world once again ran in the wrong direction. As at happened during the great depression 80 years earlier, protectionism, nationalism, isolationism and mercantilism took over. This time, the consequence was not global war, but the permanent and long-term decline of the world economy. The descent was most pronounced in the NAU.

Domestically, most countries understood the need for a "third way," i.e. for more

government regulation of the economy, more rational planning, for a more equitable distribution of wealth.

Despite the vociferous throw-back movement to pure market economics in the NAU, the rest of the world remained solidly Keynesian. In most countries, public institutions moved to the fore and private enterprises had their wings clipped. The funding and clout of public services, the military and education grew. Other sectors *became* public for the first time, including health care, airlines, telecommunication and the Internet, which were nationalized in a majority of countries - last but not least in that stalwart bastion of capitalism, the NAU.

The stock market was no longer for everybody. Fewer than 25% of the people owned stocks. Saving and investing were encouraged, but the bulk of the money went into government bonds and savings accounts.

There was a sharp decline in home ownership. In most countries, a majority of households were renters, often renting flats from local or national governments. Indeed, governments at all levels became the largest landlords, acquiring, maintaining and renting millions of houses and apartments. Government housing became the norm, not the exception. The NAU, again, moved more slowly in this direction than most other countries. In North America, nearly 40% of households still owned their home in 2052. Elsewhere, the percentage was much lower. In Eurabia, for example, 90% of the people rented. And this worked quite well. Far from causing housing neglect and decay, the general condition of the housing stock was superior to what it had been when more people owned.

During the 2nd half of the 21st century, the G-20 continued to meet annually, but the membership varied, depending on which countries possessed the largest economies. For example, Vietnam acquired permanent membership in 2069, Russia and Italy lost their seats in 2076 (although these countries' representation was safeguarded through the Eurabian seat on the permanent council).

When this happened, Eurabian Parliament President Thomas Frankenstein vowed that Eurabia would boycott future meetings of the G-20. To everyone's surprise, Eurabia did attend the following year's meeting in 2077, nevertheless.

The explanation was revealed two years later: Immediately after Eurabia had its tantrum over two of its member states being dropped by the G-20, the Chinese government secretly offered Eurabia a vast trade agreement, along with a kickback of 500 million *solars* to the Eurabian Parliament and its President.

All in all, the G-20, the World Bank and the IMF became increasingly irrelevant to the world economy. The world returned to *mercantilism*, with a vengeance. While each country tried to do what was best for itself, each viewed the global economy as a zero-sum game, believing that it could only prosper at the expense of others. Every country strove for a positive balance of trade, maximizing exports, minimizing imports, and protecting its domestic production and its domestic jobs. Because everyone pursued the same goal, everyone lost. The world economic system was competitive alright, but only in this negative sense.

D. The Environment and Population: By the end of the 21st century, the world had largely replaced its dependency on oil with alternative sources of energy. This did not benefit public health or the environment. The world's renewed reliance of nuclear energy led to further increases in leukemia and other forms of cancer, and to the premature death of hundreds of millions. The renewed reliance on coal aggravated global warming and air pollution. The level

of the world's oceans rose by two feet, and their temperature rose by an average of four degrees centigrade. This caused the extinction of much sea life, and floods which either devastated entire countries or regions - Bangladesh, South Pacific Island nations, the Mississippi Delta - or threatened to do so - the Netherlands.

The latter country had for centuries been the world's leader in water management technology. It continued its heroic struggle against the sea, whose level had now risen to over *seven meters above* much of the country, including the eight million people living in the mega-city of Randstad Holland.

The Dutch had safeguarded the Southern part of their country against flooding during the second half of the 20th century, by building the massive Delta Works, a state-of-the-art, multi-billion dollar system of electronically controlled metal sluices and locks and concrete dams. The Delta Works were considered to be one of the Seven Wonders of the world.

A century later, a similar project was required in the North: There, the protection of the country against the North Sea's onslaught had been the job of the *Hondsbosche Zeewering* and the *Afsluitdijk* - two dikes which together measured nearly 100 kilometers in length. By the end of the century, these two old dams could no longer provide the country with sufficient flood protection. They were centuries old, and the North Sea's level had risen considerably. Between 2038 and 2080, the Dutch government embarked on a massive renewal of the two major North Holland dams, replicating what it had done in the Rhine Delta over a century earlier. The new dams provided the country with 20,000 year flood protection. The Dutch national motto was "we are here to stay." Their engineering success was one of the few bright points in a world whose infrastructure continued, otherwise, to decay.

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During the century under review, the world went through enormous demographic upheaval. Not since the 4th and 5th centuries had populations shifted so massively. By the middle of the 22nd century, the world's total population was roughly the same as what it was a century earlier - 10 billion. It peaked at 12 billion in 2081, and declined after that.

The steepest declines took place in Africa, in Eastern Europe and in Russia. Africa's population declined from 700 million in 2080 to 420 million by 2150.

In that year, Russia's population was down to 50 million, and some Eastern European jurisdictions (Now part of Eurabia) were consolidated because their separate populations were too small to support separate provincial governments. For example, Hungary, Slovakia and Czechia were consolidated as Eurabia's Central European District, with a joint population of 8 million (as against 24 million in 2080).

The NAU also lost population during that period, going from 760 million to 400 million, as did the totality of Eurabia, going down from over 600 million to 410 million. Japan's population was cut in half.

However, not every country or continent lost population. China and Korea were stable, as was South America. Southeast Asian countries such as Vietnam, Indonesia and Thailand gained population, as did India which, by 2150, had a billion and a half people, by far the largest number of any country. Finally, the Middle Eastern population also continued to grow, making Islam - with three billion adherents - by far the most popular religion in the world during the 22nd century.

Populations did not only change in terms of numbers. Their ethnic composition also underwent fundamental change.

For example, 80% of the 8 million people left in Central Europe were now gypsies. Nearly half of Russia's 50 million people were Chinese and one third were non-Russian Muslims. Half of the 50 million people living in Japan were Korean, Chinese and Southeast Asian. 70% of the population of the NAU was Hispanic. 80% of the population of Eurabia was of Arabic or Turkish descent.

Not since the fall of the Roman Empire did the world undergo such enormous population changes. By and large, the shifts were accomplished through peaceful mass migrations, rather than violent invasions. Nevertheless, they resulted in profound cultural change in the recipient countries. The distinction between First and Third Worlds became meaningless. Japan, Europe and North America were no more First World, no more technologically advanced, no more prosperous, than were South America, India, the Middle East or China.

Finally, the world's populations became phenotypically unrecognizable. The physiology of Europeans and of North Americans was no more "Caucasian," let alone blond, than that of Middle Easterners or Indians. Much of the world population's looks displayed a happy "Hawaiian-like" blend.

E.Conclusion: In sum, the century discussed in this chapter showed many similarities with the decline and fall of the (West) Roman Empire. As in the fifth century, when the Byzantine Empire survived relatively successfully for another thousand years, the upheavals of the 21st and 22nd centuries did not mean the final collapse of civilization. As always in history, the baton was passed to the next carrier - in this case China - and human life hobbled on.

Nevertheless, by any objective measure, 22nd century life on earth was inferior to what it was in the 20th century. There can be no doubt about this. The West may have passed the baton on to others, but the baton was worn out. The achievements of Western Civilization were in decay. In other words, the decline was *not caused* by those who carried on. In fact, when China and others assumed the mantle of historical continuity and responsibility, they probably mitigated the worst downward trends already under way in the West.

The decline was very much rooted in Western Civilization's *own* excesses, the destructive point reached by sensate, industrial civilization. This was, in short, *the crisis of modernity*. No matter where one puts the blame and how one looks at the world in 2150, it was in far worse shape than it had been 150 years earlier. Its population was in decline, as were public health, the economy, living conditions, public safety and cultural life.

The infrastructure in many areas was in decay. Roads, bridges, railroads, subways and urban and rural housing were often in disrepair. There was variation in this, of course, both globally and internally within countries. China and the rest of East Asia were in relatively good shape, as was Eurabia.

In the Western Hemisphere, things did not look as good. The NAU's infrastructure suffered such neglect for so long that it was now of the same caliber as Mexico's had been before the unification of North America. And then there were great contrasts between neighborhoods, cities and regions. For example, some the NAU's inner cities - Detroit, Cleveland, Los Angeles, Las Vegas - became quasi ghost towns, populated only by violent, lawless bands, and devoid of civil order. On the other hand, the privileged few often secluded

themselves in remote *latifundiae*. These were large gated communities, surrounded by electric razor-wire fences and guard towers, patrolled by motorized and air-born armed guards and attack dogs, equipped with state-of-the-art security mechanisms. These communities were self-sufficient. All necessary supplies were flown in. Residents could spend a lifetime inside the compounds, without ever having to leave them for any purchase, any medical assistance or any other service. The system was reminiscent of feudal days, when safety could only be found behind the moats and the walls of fortified castles.

The culture, too, atrophied. Reading, writing and quantitative skills declined, because education had deteriorated. All education took place on line, and the chief emphasis was on electronic skills. General education for the enrichment of the spirit disappeared.

The world was increasingly fragmented into competing economic, cultural and ideological blocks. Economies competed rather than cooperated. Languages were simplified. Both material and cultural life were impoverished. The Roman analogy was apt.

5. 2150- 2600: HISPANIOLA

There began during the 22nd century a process which eventually resulted in the unification of the entire Western Hemisphere into a vast new Confederacy named *Hispaniola*, with its capital city being Mexico City. The formal birth of this new nation, which included the NAU as well as all of South America, occurred in 2223. The steps which led to this are discussed in detail in the second section of this chapter - Domestic Politics. The present chapter, then, is the history of the Americas, both before and after their unification as the State of Hispaniola.

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For both the Western Hemisphere and the rest of the world, the third millennium can be divided into two broad eras:

(1) Until about the middle of the 26th century, Hispaniola (the Western Hemisphere) was in decline, and it lagged behind Asia and Eurabia. During this half millennium, China, Japan, Korea, Indochina and the other states belonging to the Asian Co-Prosperity Alliance (ACPA) enjoyed more advanced technology, better public health and education, their standard of living was far superior to that of the Americas.

Eurabia, although not as prosperous as Asia, was also considerably better off than Hispaniola. As to the two great Islamic states - the United Islamic Alliance and the Islamic Republic of Iran - they, too, were stronger than Hispaniola, albeit in different ways: The UIA remained one of the world's most affluent regions.

The IRI on the other hand, was not as rich, but it possessed great military power, which it frequently used to achieve its objectives. Thus Hispaniola was, for several centuries, a sleeping giant where people lived under very harsh conditions. It lacked the power and the resources to prevail in international show-downs with other nations, but thanks to geography, it was able to maintain its political integrity, although it suffered economic exploitation at the hands of more powerful foreign interests, both private and national.

(2) Then, in about 2550, the Western Hemisphere began to feel the stirrings of a rebirth. The astonishing return of Hispaniola to world leadership is now known as the ***Great Awakening***. It occurred from the middle of the 26th century onward. The second half of the millennium was a precise reversal of the first: Asia came to stagnate due to environmental causes (See Chapter Six). Eurabia likewise, as a result of cultural factors (See Chapter Six). As to the UIA, it finally collapsed, after squandering its wealth and sinking into a sea of decadence, whereas the IRI became so over-extended militarily and so strife-ridden internally that it, too, fell completely apart.

Until the ***Great Awakening*** in the Western Hemisphere, the center of gravity and accomplishment was unquestionably in the Old World, i.e primarily in China and the in rest of East Asia, and secondarily in Eurabia. However, while European and Asian societies functioned better than did Hispaniola at this time, they, too, experienced conflict, disorder and the inability to solve major problems. Although Eurasia was in better shape than the Western Hemisphere (and Africa) during these five centuries, the period can be characterized as an era of global stagnation and retrenchment.

The last four centuries of the millennium present a different picture: The Western Hemisphere experienced a revolutionary awakening which brought it back to the forefront of scientific progress and world leadership, and at the same time swept much of the world towards a level of civilization as advanced in comparison with the 20th century as that century was compared to the Middle Ages.

The present chapter describes the decline of Hispaniola from 2150 to shortly before the end of the 26th century.

1. The Economy: There were several reasons for the decline of the Western Hemisphere, and for the more successful adaptations of Asian and European societies. The United States and its progeny the NAU spent the previous two centuries exhausting themselves in wars all over the planet, squandering their resources, failing to plan for and to invest in their future, failing to build and to fund collective governmental and societal institutions for the benefit of all.

Perhaps even more important was what the Chinese Dagong Global Credit Rating Co. called “Serious defects in North America’s economic development and management model, leading to long-term recession of its national economy, fundamentally lowering the national solvency.” “Management Model” was the Chinese euphemism for American-style capitalism. The nation’s economic system, rooted in excessive individualism and hyper-freedom became politically dysfunctional. The continent lapsed into chaos, waste and poverty. It broke down.

History proceeds through leapfrogs. In time, the front runner will *always* be overtaken.

Leadership is *always* cyclical. The baton never stays in the same hand. Why? Because, just as in pursuit bicycle racing, the runner-up has all the advantages, the foremost of which is his ability to profit from the leader's trials and errors. America's chief error was to remain rigidly wedded to an economic paradigm which had been extremely successful during the 20th century, but became obsolete after that.

By the 22nd century, Asia and Eurabia learned adapted, and overtook the Western Hemisphere. The quality of their economies surpassed that of the NAU and of Hispaniola, as did their technology, science, education, standard of living, crime reduction and public health.

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During the 23rd century and beyond, The Western Hemisphere's economy was increasingly *horticultural*. Due to global warming, large parts of the continent became desertified. Except for the far North (Canada and Alaska), the deforestation of the Americas was complete. The consequences were especially dire in Brazil, which suffered from gigantic floods, and where the Amazon shifted its course at will.

The new ecological constraints assured the cultural shift to vegetarianism. Beef became prohibitively expensive. The norm was now for each household to have its own private garden. Households grew a variety of fruits and vegetables, thereby meeting some of their own nutritional needs. However, most households specialized, and the *farmers market* became one of society's central institutions, along with *barter*, the form which most private commerce took.

Much of the economy was decentralized. Insofar as large corporations survived, they were regional, not hemisphere-wide. Chains of markets developed on a regional basis. For example in the late 22nd century, Archer Daniels Midland became the distributor for most local farmers markets in Atlantic America, whose representatives in turn took over grassroots commerce among gardeners. During the 23rd century, the CBO Coffee conglomerate controlled much of the processed food business in Brazil and Patagonia.

Although many such regional companies engaged in import-export, Hispaniola had no hemisphere-wide corporations. For that, communication and transportation were too primitive and cumbersome. The confederacy was too fragmented.

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Some of the advanced technologies developed in the 20th century survived in adulterated form. One of these was nuclear energy. Public utility companies ran about 600 small, dirty reactors, primarily to provide energy for public services and for large private companies. Three companies disposed, for a profit, of nuclear waste beneath *Yucca Mountain* in Nevada, in a remote part of Brazil's *Matto Grosso*, and in the now ice-free interior of Alaska. There was no radioactive leakage in those three sites - at least not yet. However, there were frequent cases of leakage from some of the reactors themselves. No large-scale Chernobyl-type accident occurred during this period, but many smaller "mishaps" did.

Society became enured to the millions of people with deformities, mutants, and astronomical cancer rates. Life expectancy hovered just above 60 years. Many new laws and regulations were in place to mitigate the effects of the radioactive environment: The population was required to take potassium iodine tablets daily. All residential as well as commercial structures contained protective shields against radiation. Every citizen was required to wear a

ventilated gamma-jacket or iso-suit when venturing outside. As always, the quality of protection was directly related to its cost. Thus, the upper class enjoyed lower rates of cancer and deformities, and greater longevity.

The other major sources of energy were coal, a few other minerals, and lumber. The former were still abundant. As to lumber, only artificial tree nurseries remained, except in the far North. Mining and artificial forestry were the Western Hemisphere's two largest industries. The Continent had little manufacture, as it imported most of its industrial goods from Asia and from Eurabia.

The remainder of the labor force worked in the services. The greatest public sector employers were law enforcement, the military, education and the big four: biological, psychological, sociological and recreational services.

Major businesses included financial companies, *Information* companies, *Chance* and leisure companies, and consumption companies. Information companies provided for the consumer the data and directives as to what to purchase and how to spend its earnings. The Chance companies offered psychic recovery through recreational investments. What used to be called "gambling" in the 20th century now became known as "probabilistic investment," or "prob" and "*probing*" for short.

Probing became the greatest single sector of the economy. Every jurisdiction - the nation, the states, the counties - had its own lottery, for starters. In addition, every town had several casinos, and the nation's highways were dotted with casino-towns, i.e. destinations entirely devoted to probing.

The people were exposed to daily barrages of advertisements urging them to probe, in the form of Internet pop-ups, incessant spam messages, calls by telemarketers, TV ads, highway signs and even printed junk mail.

The corporations and the governments shared the profits. Lottery and casino taxes were essential for the funding of public services, meager as they became. Education, health care, law enforcement and psycho-social services were largely funded from this source. In order to encourage maximum probing among the population, all gambling losses were tax deductible. The government also provided zero-interest loans to repay probing debts.

In the 23rd century, the average Hispanioloan spent one third of her income on probing. The probing-based economy became society's new taxation system.

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Hispaniola was entirely de-industrialized, and it also imported much of its food. However, it did have an ace in the hole when it came to world trade: It produced 90% of the world's marijuana and cocaine. After the *Legalization Act of 2075*, these two products became the functional equivalent of tobacco and cotton in the economy of the Southern United States in the 19th and early 20th centuries. Eurabia and Asia were heavily dependent on Hispaniola's exports of these cash crops. In the 23rd century, they yielded a trillion and a half solars each year. Again, while giant corporations such as Phillip Morris, R.J. Reynolds, the Grupo Carso and Macau Victory reaped the bulk of these profits, the federal government in Mexico City was utterly dependent on its share.

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The people of the Americas became far less mobile. Travel declined, especially long-distance travel. After the Western Hemisphere became a confederation called *Hispaniola* in 2223, formal national obstacles to travel such as borders and customs became minimal. In that sense, border crossings should have been as easy as they had been in the European Union and within the NAU from the 21st century onwards. However, local jurisdictions erected more and more barriers, from gates to armed inspection booths, from road blocks to control stations. The purpose of these was to levy transit “fees” - at gun point. Travelers could satisfy the extortionists either in cash, or by handing over part of their cargo, which often consisted of agricultural and horticultural products, including marijuana and cocaine. The Hispaniolan Federal Government, and the governments of the constituent states, were distant and impotent to intervene.

In an even more sinister development, such crossings ended up being many people’s final undoing: Many districts had become depopulated, and they lacked labor force. In order to remedy this, they often snatched travelers who sought transit, forcing them into labor camps as indentured workers.

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By the end of the 22nd century, space exploration ceased altogether. The only remaining space ventures consisted of the occasional launch of a satellite, needed for domestic communication. However, this too, came to an end. By the middle of the 23rd century, Hispaniola had outsourced all its space needs to Asia. Its own old satellites were eventually all destroyed as a result of sub-orbital decay, collision, or some other cause. After that, all of Hispaniola’s telecommunication and mapping needs were in the hands of China, Japan and India.

2. Domestic Politics: The most important political event of the era was, of course, the transition from NAU to the Hispaniolan Confederacy. I.o.w. the unification of the entire Western Hemisphere into a Confederacy.

This began with the NAU’s invasion of South America in 2102 in response to the attack on the Indian Point nuclear reactor in 2101. The NAU’s campaign was directed against the most hostile South American countries, namely Venezuela, Colombia and Santa Cruz. It took NAU forces over a decade to pacify the areas under its control. By 2115, it also extended its control to parts of Brazil, Bolivia and Ecuador. South America’s entire Northwest - an area over 2 million square miles - became a NAU protectorate. The governor was appointed by NAU’s President, subject to approval by the United Nations Security Council.

Until the middle of the 22nd century, the region remained hostile, seeing itself as an occupied territory. However, the relationship between North and South America improved considerably thereafter. By the beginning of the 23rd century, the two subcontinents viewed each other increasingly as co-equal partners.

One reason for this was the internalization of the NAU’s domestic party politics. That is, the NAU’s principal and by far most powerful political party - the *American Democratic Union* - branched out and created chapters in every South American country. It must be remembered that North and South America shared a common language and a common culture. What they did not share, at least in the past, was a largely socialist economic ideology. However, as the 22nd century progressed, it was much more NAU which rallied to South America’s socialist practices, than the other way around. In other words, the conquerors assimilated to the conquered, and not the opposite.

At the the turn of the 23rd century, the ADU renamed itself the *International Democratic Union*, to reflect the new reality. It now enjoyed a constituency in every South American country, and the party's total membership in South America exceeded that within the NAU.

The chief architects of this transformation were two brothers - Ignacio and Alejandro LaWayne. They were born in 2156 and 2159 in Mexico's Jalisco district, in a family which owned a large leisure corporation. Appalled by the exploitative conditions in the leisure business, the two brothers joined the ADU, vowing to reform not only the industry from which their family had profited so much, but society itself. Driven by idealism, ambition, and unflinching mutual support and loyalty to each other, the two brothers moved up through party ranks, and both were elected to its national committee by age 30 and 27, respectively. At the same time, they both carried on their successful careers - Ignacio a forward for his home soccer team Chivas de Guadalajara, and Alejandro the goalkeeper for Club America.

Two years later, Ignacio was voted National Chairman and Alejandro Vice-Chair. For the next decade, they proceeded to do two things: (1) the relentless expansion of the Party into South America, establishing branches and structures in one or two additional countries every year, and (2) moving the Party leftward. Of course, had the latter not occurred, the Party would not have been able to become as popular in South America as it had long been in the North.

In 2201, the Party did two things: Its governing body - the "Committee" - was internationalized. Henceforth, all 38 countries in the Western Hemisphere had one or more representatives on the board. Since representation was proportional to population, the NAU still had a plurality (not a majority) of the members - 39 out of 153.

The IDU, under the leadership of the LaWayne brothers, was the chief force driving the progressive political assimilation of North and South America. Opinions in other political parties were divided. However, the powerful Conservative Party was soon on board, as it saw enormous business potential in a Hemisphere-wide union. Once this happened, the remaining parties had no other choice but to follow suit and to internationalize themselves as well. Furthermore, the policies of the various national governments increasingly reflected the parties' agendas, which were trans-national. By the end of the 2nd decade, South Americans had as much influence on legislation and life in the North as vice-versa.

Few people were surprised, therefore, when the LaWayne brothers proposed the merger of the Western Hemisphere into one Confederacy.

The merger was consummated in the *2223 Treaty of Chichen Itza*, signed by the 38 countries of the Western Hemisphere. The symbolism of the location was unmistakable. It signified the resurrection of the Western Hemisphere's unified and independent existence, a return to and even the transcendence of the great Aztec, Inca and Mayan empires of the past. There was continent-wide euphoria, an *élan* and a great collective surge of supra-nationalism. The unified Western Hemisphere was renamed Hispaniola. Mexico City became the capital. The first President was - who else? - Ignacio LaWayne.

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Political life in the 23rd and 24th centuries evolved a great deal from what it was in the early 21st century, because society and culture themselves changed unrecognizably. The lines between politics and other areas were fluid. In earlier centuries, the occasional movie star or popular cultural icon who parlayed his fame into a political career - Ronald Reagan, Arnold Schwarzenegger, Bill Bradley - were the exception. Now, such a career in popular culture was

almost a prerequisite for a political career. A majority of governors, mayors, legislators and politicians at all levels of governments had been, or continued to work as, musicians, Interweb stars, athletes, famous chefs, etc.

One of the the most popular figures of the late 24th century was the the great Abney Van Lossum. He was born in 2368 in Waterfleet, Canada. He was fluent in Spanglish, Frenghish, Portuglish, classical American and Inuit. He sang songs in all of these languages to live and electronic audiences of millions, accompanying himself with a dual virtual guitar, an instrument which he played with supernatural virtuosity. Van Lossum became Hispaniola's 13th President, and he remained at that post for 35 years.

Stability was an important priority at the founding of the Hispaniolan Confederacy. Therefore, term limits were anathema. Hispaniola's first 13 Presidents each served an average of thirteen years, some less, but some much longer. Life for the populace was precarious, and the federal government in Mexico City was remote and largely irrelevant. At the same time, symbols of continuity and stability were helpful, and such long presidencies provided that.

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Two major 25th century historical figures were Dr. *Adriana Cruz* and her daughter *Isabel*. Dr. Cruz was, among other things, President of Harvard University. Her best-known work was her virtual disc *The Seven Verities*. In this seminal work, she argued for the re-introduction of certain uniform standards of communication and classification, for the consensual re-definitions of the meanings of certain words, icons and indexical expressions, for uniform monetary standards, and uniform psychological, physical and esthetic evaluation criteria.

Adriana Cruz's lifelong quest was to replace chaos with order, misunderstanding with communication, conflict with collaboration. By the beginning of the 25th century, Hispaniola was more chaotic, disorderly and cacophonous than ever. The Continent was suffering from advanced cultural, social and technological breakdown. For example, different regions used different calendars and dating systems, different temperature scales, different currencies, different weight systems, and of course different legal systems.

Dr. Cruz's publications, teachings and political campaigns were a quest for the re-introduction of uniform, scientific, objective procedures. She explained over and over again, patiently, to her millions of listeners, that Hispaniolans should at least be able to agree with each other on such things as the meaning of the concept of "workweek," or the word "amortization," or on what constitutes an "even economic exchange," or on the numerical value given to the temperature at which mercury freezes.

She strenuously advocated abolishing the *IHVM*, which she said was an asinine way of determining facts: The *Interweb Habilitation Verification Method* was the approach prevailing in Hispaniolan society during the 23rd and 24th centuries. (See Section #5 - Technology - below). In essence, it stated that facts are determined by two thirds of all Interweb chatter.

Adriana Cruz campaigned relentless against this. She stressed that "facts must be determined through Positivism," (quoting the ancient French philosopher Auguste Comte). Her opponents accused her of being anti-democratic. In 2471, she was appointed head of the Hemispheric Council of Legal and Financial Authority - the agency largely responsible for providing the federal cabinet with the data needed for policy decisions. Her leadership did a great deal to improve the quality of Hispaniolan decision-making. Tragically, she was assassinated by

a disgruntled member of the group “Fuerza de Democracia” in 2487, at age 56. Mass demonstrations and national mourning followed. Fortunately, Adriana Cruz’s campaign for reform didn’t die with her. Her daughter *Isabel* took over the baton and ran with it.

People like Adriana and Isabel Cruz were among the first to discuss and to propagate ideas that had been dormant for centuries - under various terms. Sometimes they were called “positivists,” sometimes “objectivists,” sometimes something else. They also brought to the intellectually starved Western Hemisphere some of Asia’s more advanced thinking. Isabel Cruz

Dr. Adriana Cruz: 2431-2487



spent considerable time studying in China, where she held a teaching position at the Harbin University of Science and Technology, before returning to Hispaniola. She also represented her country at the World Council in Kyoto, spending a great deal of time doing research in Japan. She and her mother, then, presaged the awakening in the West, fifty years later.

3. Crime and Conflict: Life in the Western Hemisphere was both more sedate than it had been two centuries earlier, and yet riskier, too. The federal government in Mexico City was distant and uninvolved in the lives of most people. The creaky system levied taxes, conscripted some men for the armed forces, and passed laws which it enforced haphazardly.

”Haphazard” was the operative word, indeed. Who paid how much in tax was anybody’s guess. Who got away with cheating, same. Most did. The very rich did not. They were under heavy surveillance.

But as we saw, the government at all levels had a much more efficient way of squeezing money out of the populace: *probing!* The thousands of casinos up and down the Hemisphere

were each assessed a certain amount every year, an amount based on the district's population. How much actual probing occurred in any given district did not matter.

Who was drafted into the federal armed forces was also largely a matter of (bad) luck. However, here another factor also played a major role, namely nepotism. The system worked through the old draft board method employed in the United States in the 20th century. There was a competitive scramble in every district to be elected to the draft board. Such a position enabled its occupant to exempt his own relatives and friends, to punish his enemies by drafting them and their relatives, to receive generous bribes for granting exemptions, and more.

In general, then, lawlessness and corruption were the norm rather than the exception. But what was even more important in determining "outcomes" was pure randomness. In other words, whether an individual, a group, a town or a district thrived or not was, ultimately, a matter of luck or bad luck. Social control, law enforcement, government intervention for good or for bad, and above all *judgments* were so haphazard and so unfounded on reason, that the conviction of an innocent man was just as likely as the acquittal of a criminal, the career success of an incompetent individual just as likely as the failure of a brilliant agent, the victory of a weakling just as likely as the defeat of a champion. This is why the 23rd and 24th centuries saw a great revival of fatalistic and quietistic religions. (See section 7 below -Culture).

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As to violent crime, its overall level for the entire Continent was high, but there was a great deal of regional variation: In some districts, a strong leader managed to establish a quasi-police state. Generally, this had two consequences, one positive and one negative: On the one hand, it made life safe for a majority of the people. On the other hand, there were hundreds of people who disappeared mysteriously every year at the pleasure of the local dictator and his military goons.

For example, for a period of 39 years in the middle of the 24th century, a *caudillo* by the name of Raoul Silva ruled over the Rio Negro region of Patagonia. Silva enforced the law harshly, with the aid of an army of mercenaries. Rio Negro was crime free and safe for most of its inhabitants.

Also, the stability enabled businesses to do business. For example, the Brazilian CBO Coffee Company and Mexico's Grupo Carso had major interests in Rio Negro. Their contributions to Raoul Silva were generous, and in return, the caudillo did not interfere with CBO's highly profitable distribution of processed food and Grupo Carso's distribution of recreational drugs.

However, the district lived under a reign of unspeakable terror, due to some astonishingly creative forms of punishment. For example, Silva did not execute common criminals and political opponents. Instead, his staff injected them with a cocktail of drugs which included Prostacyclin (PG12) and barbiturates. The drug induced a progressively intensifying vasodilatation. During the first few days, the individual suffered from an increasingly excruciating migraine. Then, cerebral and vascular hemorrhaging set in, lasting two or three weeks, and intensifying. Finally, vessels burst, i.e. the individual's head essentially exploded.

Silva was only one of many such petty warlords. Violent conflicts between such local chiefs were frequent, as those between clans, regions and families. The Federal Government

was generally impotent to mediate or to crack down on the combatants. Thus, the law of the jungle was in effect. The strong and the cunning prevailed. Life was comparable to that of the Old West in the late 19th century USA, or the late Merovingians of 7th century France.

For most people, life remained relatively safe *as long as they stayed put* behind the guarded gates and barbed-wired fences of their compounds. Travel was the real rub. The real danger was on the highway. There, as mentioned in Section One, robbery, kidnapping and murder were pandemic.

4. International Relations and Conflict: Hispaniola joined the Kyoto World Council in 2223, immediately upon its birth at the Treaty of Chichen Itza. The NAU had joined five years earlier, at the creation of the World Council.

The Council was established as an alternative to the United Nations. We shall see in the following chapter what the causes and the consequences of this schism were. Suffice it to say that the impact of the Council and of membership in it, were more symbolic than real. The resolutions passed at the annual Kyoto meetings were perfunctory and ritualistic, carrying little weight. Most member states, including Hispaniola, sent only lower officials to the meetings, and dispensed with permanent, year-around, on-site representatives.

The world was far less integrated than it had been during the late 20th and early 21st centuries. What truly mattered were bi-lateral state-to-state relationships. Those were the things that mattered, the things which profoundly affected the lives of Hispaniola's 700 million people. These relationships ranged from occasional open warfare to economic cooperation and exploitation, although it must be stressed that the three centuries under discussion were amazingly free of major global wars.

In its relationships with distant powerful states such as China (the most important member of the Asian Co-Prosperity Alliance) and Eurabia, Hispaniola descended into a state of servitude:

Ever since the 20th and 21st centuries, foreign countries - especially East Asia, Japan and China at first, then others - had increasingly become North America's (and then the Western Hemisphere's) permanent creditors and landlords. The US became hopelessly indebted to the countries that would eventually form the ACPA, and it passed its debt on to NAU which in turn passed it on to Hispaniola.

How could ACPA (and the rest of the world) cash in its chips? By accelerating the very thing foreign countries had been doing since the late 20th century: *Buying up NAU - lock stock and barrel.*

Two centuries later, the Hispaniolan economy was unrecognizable. Most of it was in the hands of ACPA, with assistance from Eurabia, the Islamic states and some others, for example India.

All in all, Asians owned 80% of Hispaniola's manufacturing (transportation, electronics, medicine), its processed food sector, its real estate, and most of its services, including banking and other financial services. Half of the companies operating in Hispaniola and employing Hispaniolans were Asian companies, the other half were Hispaniolan companies which had been purchased by foreign investors - which amounted to the same thing. 85% of the Hispaniolan labor force was working for foreign companies, most of them East Asian.

To protect their interests, the Chinese and others established a hierarchy: CEOs and

other top executives were all Asians. The “foremen” hired to represent and to enforce Asian interests generally came from the NAU. Below them worked several hundred million Hispaniolan employees.

The most odious exploitation and humiliation to which the Hispaniolan Confederacy was subjected by more powerful foreign states were some of the trade “agreements” which were shoved down its throat. A prime example was the **2212 *International Labor Agreement***: Under this act, any NAU citizen employed by an Asian company (i.e. most of them) became subject to an Asian tax, in addition of course to the domestic federal and local payroll withholdings. It was then up to the respective Asian governments to dispose of these receipts as they wished. Obviously, the bulk was returned to the Asian companies that employed hundreds of millions of Americans, vastly increasing their profit margin.

This massive new levy accelerated the outflow of trillions of solars from the NAU and, after 2223, from Hispaniola. The poor Western Hemisphere was sending massive remittances to the far wealthier Asia.

Another humiliating and costly “agreement” was signed with Eurabia, in the middle of the 23rd century. It obligated Hispaniola to ship fifteen thousand tons of marijuana to Eurabia every year, in exchange for the dubious benefit of Eurabia’s protection against Indian Ocean piracy (see below).

Also, in the late 23rd century ACPA strong-armed Hispaniola into signing an agreement to import 80% of its computers and other electronic hardware from that Asian powerhouse, leaving less than 20% of its market to India (domestic computer production stopped at the end of the 22nd century, over a century earlier).

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It can therefore be said that Hispaniola had a colonial relationship - or at least a subservient one - with its foreign masters, especially with China and Eurabia. During the 23rd, 24th and 25th centuries, it was Hispaniola’s turn to become a victim, a satrapy, the object of international economic exploitation, i.e. a colony.

Did it accept this condition? Was there no attempt at rebellion? While there was occasional local armed resistance, it never came to major international warfare between the Confederacy and its stronger adversaries. For one thing, Hispaniolans understood that such a course would be suicidal, and far more costly than the economic burdens they were made to suffer. For another, many people in the NAU profited handsomely from their positions as intermediaries between the foreign bosses and the Hispaniolan working class. They were the “collaborators” facilitating indirect Asian rule.

Above all, the absence of major warfare must be credited to Chinese (Confucian?) pragmatism: To that country and to the rest of ACPA, Hispaniola was a golden goose to be cherished and not destroyed. The Asians never pressed their advantage *too* far, and they were always open to *quid pro quos*. For example, there was a vibrant exchange of scholars, researchers, scientists and university students between the two continents. Hundreds of thousands of Hispaniolans spent months or even years at the great Asian universities (Harbin Institute of Technology, Tokyo University of Science, Cheju Scientific University, etc.). ACPA

supported these programs generously, and they helped a great deal in creating a professional class in Hispaniola which saw the relationship with China and the rest of ACPA as mutually beneficial.

Finally, Hispaniolans always knew that their biggest problem was with Eurabia and with the two great Islamic states. In view of this, staying friends with China and ACPA made sense.

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Indeed, relations with Eurabia and the Islamic states, especially the IRI, were less smooth. Over the four centuries under review, there were a number of skirmishes between the Hispaniolan navy and forces belonging to those states, both in the Indian Ocean and in the Atlantic.

In 2220, three years before the Treaty of Chichen Itza, Eurabia sent a Franco-Portuguese delegation to Brasilia to urge Brazil not to join Hispaniola. They reminded the Brazilians and anyone else willing to listen, that Hispaniola would be a colonial structure created to further the North American Union's interests, that it was based on NAU's invasion of South American and that NAU was no more than China's lackey. This stratagem did not succeed. In 2223, Brazil joined the Hispaniola Confederacy, as did every other country in the Western Hemisphere, to Eurabia's great chagrin. No doubt the 2218 schism between the United Nations and the Kyoto Council had something to do with Eurabia's utter failure to gain any support in the Western Hemisphere (See Chapter Six).

One of the repeated flashpoints between Hispaniola and the Islamic world were the many instances of hostage taking in the Persian Gulf and in the Indian Ocean, East of the Horn of Africa. While no government officially approved of piracy, the practice raged, and the governments closest to it often deliberately looked the other way.

One thing which the pirates had done for decades (most of them East Africans), was to hijack cargo ships for ransom. In the beginning of the 23rd century, things got worse: While the pirates continued to kidnap cargo crews and occasionally cruise ship passengers for ransom, they escalated both (1) their methods and (2) their demands:

(1) As to their methods, they no longer hesitated to kill hostages at the slightest delay in negotiations, which raised the mortality rate from a few hundred per year in the 22nd century to several thousand sixty years later. (2) The pirates politicized their demands. They no longer asked only for money. Instead (or in addition) they would demand such things as the abolition of a tariff which Hispaniola might levy on African coffee, or the legalization of polygamy in the Western Hemisphere.

The pirates were also very selective. 70% of the hijacked ships were Hispaniolan, and the rest were from East Asia, India and a smattering of other countries. *None* were Eurabian, or from the UIA and the IRI. It seemed clear that those states at least condoned piracy or even encouraged it. After all, the pirates' political demands were in line with those states' economic interests and political ideologies.

To sum up, the 23rd, 24th and 25th centuries were difficult ones for Hispaniola. Its position in the world was precarious, its people were chafing under conditions which were more primitive than those in many other parts of the world. Only Africans lived more miserable and impoverished lives than the Hispaniolans.

5. Technology: During the 22nd and 23rd centuries, Hispaniola's transportation and communication systems suffered a great deal. The infrastructure was in ever greater disrepair. Technical knowledge and communication skills atrophied. By 2250, the country's activities in space were negligible. Its antiquated Interweb, television, virtulife, search engines and electronic social networks hobbled along with the help of fewer than one hundred outdated satellites, their number declining by two or three every year. Wireless services became increasingly scarce. More and more people returned to cable, but that infrastructure was also in disrepair. Many of the Google-Wikipedia data bases were decades old. Electronic communication, networking and information became a hit-and-miss affair. Sometimes it worked, for some people, some groups, in some locations, on some days. Often it did not. The Interweb became increasingly known as the *Etherweb*, relying more and more on *LANs* (Local Area Networks) often using coaxial cable, and access to it became more and more uneven, depending on where you lived. During the next three centuries, this situation only got worse.

Hispaniola was totally dependent on Asia for its satellites and its other communication needs. Not that the rest of the world had made much progress on that front. Much of it was on hold everywhere, as the world faced global social, economic and ecological problems. Yet China still enjoyed the use of its antiquated space station, which it shared with Eurabia. The NAU's space station had disintegrated in sub-orbital decay in 2117, and it was not replaced.

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Air travel became far less common, but it survived - both the heavier-than-air kind and in the form of hydrogen and helium dirigibles. The invention of a clean and compact nuclear airplane engine by Chinese scientists at the beginning of the 22nd century saved the airplane.

Nevertheless, air travel was for the rich, for celebrities, for corporate executives, for the government and for the military. Hispaniola was lucky in that it was able to extract large amounts of helium from both imported and domestic natural gas sources. Hence, the blimp industry was one of few bright spots in the economy.

There were several dozen Zeppelin companies. Half a dozen were still under Hispaniolan control, but most were largely owned by foreign investors, and only managed by Americans. Altogether, about seven thousand Zeppelins operated between Fairbanks and *Tierra del Fuego*, hundreds of which were floating casinos on which the corporate executives vacationed in a manner reminiscent of the cruise ships which had been so popular in the 21st century.

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One of the most destructive developments of the 23rd century - one which did a great deal to retrogress science for centuries - was a new source of knowledge called "*Common knowledge*." The official name for this approach was *Interweb Habilitation Verification Method*. The *IHVM* was developed by members of the federal democratic task force in Mexico City in the latter part of the 23rd century.

Here is how it worked: If a "fact" was accepted by 66.7% or more of all Etherweb blogs, Face Book, Twitter, and other social network posts, it was accepted as true. In other words, information was determined by a democratic two-thirds majority rule. For example, if an airplane crashed in the Korean peninsula and more than 2/3 of all electronic discussions of the event said that the cause was a terrorist attack from Pakistan, then that cause was recorded in

the National Hispaniolan Register as the true cause. As was mentioned in Section Two, forward-looking intellectuals such as Adriana and Isabel Cruz began to campaign against this as early as the turn of the 26th century. However, it wasn't until the *Great Awakening* at the end of that century that IHVM was totally abandoned.

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Towards the end of the 25th century, Hispaniolan scientists learned from Asian peers that nuclear energy didn't have to kill and maim millions. Chinese nuclear engineers at the Harbin Institute found ways to produce "a-neutronic" nuclear reactions - using Helium as their primary element. Also, the burial of Asia's radioactive waste in Manchuria had become much more efficient as a result of a new Ion exchange method which made it possible to concentrate radioactivity into smaller volumes.

Asia's superior technology helped Hispaniola in other ways, too: For example, the Americas' decrepit Interweb might have collapsed altogether, had it not been for the assistance provided by Asian satellites. Throughout the 23rd, 24th and 25th centuries, Hispaniolan wireless telecommunication was entirely dependent on Asian satellites, as it no longer launched its own space vehicles after the early 23rd century.

But as stated, the greatest impediment to progress was IHVM. The media leaders, the Universities and the government controlled the Interweb and the disparate Etherwebs, and they had a vested interest in the *status quo*. The party line was that only by using IHVM, could the webs remain truly democratic. However, new ideas could not be suppressed for ever. Under the enlightened leadership of such trailblazers as Drs. Adriana and Isabel Cruz, the groundwork was laid for the great awakening in the following century, a return to true science instead of quack science, and a resumption of progress in both knowledge and quality of life.

6. Population, Public Health and the Environment: Until the beginning of the 26th century, the population of the Western Hemisphere underwent slow but steady decline. This varied by region. Until the late 23rd century, population decline took place primarily in the NAU, while South America continued to grow slowly. However, by the early 24th century, the Southern part of the Hemisphere also began to lose population (See Table Five).

The primary cause of Hispaniola's population decline was the deteriorating state of public health. By the late 25th century, life expectancy was about 64 years for women and 58 for men - *twenty years* lower than it had been in the 21st century.

To be sure, there were also countervailing forces which helped the Continent avoid even greater depopulation. Let me dispose of these first: Because Hispaniola was largely vegetarian, and because people moved about on foot and on bicycles a great deal more, obesity and heart disease were down a great deal, as compared to the 21st century. The decline in heart disease also reflected the fact that the population was much younger. In addition, the federal and local governments' pro-natalist policies did help to sustain a relatively high birthrate.

Nevertheless, the negatives outweighed the positives: The legalization of marijuana led to a great increase in its consumption, along with that of other substances such as cocaine and heroine, which could be obtained with a physician's prescription, or with a government license. Also, Hispaniolans consumed much more alcohol than their forefathers had.

Table Five: Hispaniola's Population during the first half of the third millennium*

Year	NAU	South America	Total
2161	364	425	789
2250	325	440	765
2350	300	400	700
2450	280	380	660
2550	315	405	720

*: After 2161, numbers are estimates. The Hispaniolan government no longer carried out accurate and comprehensive censuses.

The chief public health hazard was radioactivity. Because of their reliance on dirty nuclear energy, Hispaniolans died more of cancer than of all other forms of mortality combined, and they did so at an ever earlier age.

Additionally, geopolitics dictated certain population movements which were also detrimental to Hispaniola: As we saw earlier, the Western Hemisphere, while nominally independent, was nevertheless in many ways an economic servant to the other major world powers, notably the ACPA (primarily China) and Eurabia. Over the centuries, Hispaniola became deeply indebted to those powers, and it never succeeded in getting out from underneath this yoke. In fact, it continued to depend on exports from them for almost all its consumer goods. How, then, was Hispaniola to reimburse its creditors? States no longer practiced old-fashioned colonialism that might involve military action by China or by Eurabia against Hispaniola.

Instead, Hispaniola rendered services to foreign authorities by sending millions of its citizens overseas, sometimes for years, sometimes as permanent emigrants. Actually, there was a two-way traffic of personnel across the Atlantic and the Pacific: Over the centuries, many high-powered CEOs, executives, NGO officers, academicians, scientists, government officials and assorted others moved to Hispaniola, where they ran foreign-owned companies which employed millions of Hispaniolan workers, and played other leadership roles. Most of the Hispaniolan economy was owned and run by foreigners, many of whom were permanently stationed in Western Hemisphere.

Such economic colonialism, whereby profits are shipped back to the mother country, was nothing new. What *was* new, however, was the next step: Increasing numbers of Hispaniolans were shipped overseas to work for their employers *there* - sometimes for years, sometimes for life. In addition, thousands were offered positions in the armed forces of Asian and European countries, as mercenaries. From the late 22nd century to the middle of the 26th century, hundreds of such “labor” and “manpower transfer” programs were agreed upon by Hispaniola and countries such as Japan, China and Eurabia. Millions of Hispaniolans performed labor and military duty overseas, and many of them remained in their host countries permanently. Thus, Hispaniola became a net exporter of emigrants.

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Next to Africa, no continent suffered as much from *global warming* and *global drying* as

Hispaniola did, during the first half of the 3rd millennium. The major damage occurred during the 21st and 22nd centuries. By 2200, the earth's average temperature rose by 8 degrees Fahrenheit or 4.4 degrees Celsius. Since sea temperatures rise more slowly than land temperatures, the continents suffered an increase twice as large as did the oceans.

There were mitigating trends which could have been expected to reverse global warming: In the first place, use of oil declined sharply after the middle of the 21st century. After the end of that century, motorization, mechanization and industrialization all began a centuries-long decline. Furthermore, the population of the NAU peaked at the beginning of the 22nd century, and that of Hispaniola fifty years later.

However, oil use was replaced by the massive return to coal. Also, other continents (Asia and Eurabia) did not undergo the sharp de-industrialization experienced by Hispaniola and, most importantly, global warming reached a *tipping point*. By 2250, 80% of the Antarctic's peripheral ice shelves were gone, as was 75% of the Polar Ice Cap and 80% of Greenland's ice sheet. Furthermore, the Gulf Stream was greatly weakened. Although the world's temperature ceased to rise, land temperatures remained between 12 and 15 degrees Fahrenheit higher than they had been at the beginning of the millennium. Record temperatures were registered several times during the 23rd century. In 2289, an atmospheric temperature of 145 degrees Fahrenheit was recorded in Death Valley. This was the highest temperature ever measured in the world outside of Africa.

But the greatest environmental problem was not global warming. It was *global drying*: Most of the Continent's subterranean water tables were exhausted. Reservoirs no longer filled to capacity during ever more meager rainy seasons. Water became one of the most precious commodities. Its price varied from region to region, and different groups paid different rates, depending on the role which they played in the economy.

Water rationing was in effect in all of Hispaniola, from Greenland to Tierra de Fuego. However, allotments and rates varied. Of all the regions, water allotments were smallest, and rates the highest, in Spanish America. There, the Colorado River became a trickle of its former size, and lakes Powell and Mead were long gone. In the 23rd century, the population of Los Angeles was stable at 500,000. Las Vegas and Phoenix were ghost towns. The area formerly called California had a population of 14 million, mostly living along the coast and above the 36th parallel. In the 24th century, Spanish Americans had to pay ☀75 for a gallon of fresh water, and each individual was entitled to four gallons per week, although allowances could be increased in cases of proven emergency.

The recycling of used water was mandatory, including that of urine, toilet water and water used for cooking and washing. Depending on the use, private users had to recycle and use their water from three to six times before returning it to the public water fund. Licensed farmers, fire departments and other special occupations enjoyed larger allotments and lower rates.

7. Culture, Education and Civilization: It would not be totally right to say that the quality of literacy and linguistic skills only *declined*, during the 22nd century and thereafter. In all fairness, it is also the *character* of these skills that changed. The electronic revolution changed the nature of "the three R's" - reading, writing and 'rithmetic - permanently, as it changed culture, knowledge and education.

The typical 24th-century adult Hispaniolan's writing and computing skills were probably equal to those of a 20th century grade-school student. And to some extent this was

inevitable, since the population had been relying for many generations on push-button machines to add, subtract, multiply and divide, or to spell a word or to put together a coherent sentence, or to find out what the capital of Mongolia is, or the population of Egypt, or the date of the American Revolution. A nasty side-effect of this mechanical dependency was that by the end of the 24th century, nearly half of all Hispaniolans were functionally illiterate. They could not put into writing a grammatically correct sentence containing a subject, a verb and an object.

Also, substituting reliance on technology for one's own brain power worked well as long as the technology was available. However, by the 23rd and 24th centuries, this was less and less the case. To be sure, common calculators were still plentiful, but search engines became unreliable, outdated and often inaccessible. Technologies such as GPS were no longer available, as Hispaniola's satellite system broke down.

The brain, like a muscle, benefits from exercise. When it is not used, it atrophies - or so one would think. By this logic, it is reasonable to assume that the people of the 24th and 25th centuries became dumber than their predecessors had been four or five hundred years earlier.

But had there *really* been a dumbing down process over the centuries? This certainly could not yet have been said during the 21st century, at the height of computer civilization. Back then, it was more a matter of old skills being replaced by new skills. Lengthy, old-fashioned discourse was being replaced by concise texting. The younger generation might not have had the capacity to absorb Tolstoy's *War and Peace* and to write a dissertation about it, but they were damn good at putting together a graphics program, constructing a virtual electronic environment, applying an algorithm to estimate the cost of a project, or sending the most concise and effective text to achieve a necessary task.

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One thing about which there could be no doubt, was the gradual *simplification* of language. By the 25th century, most Hispaniolans spoke one version or another of *Spanglish*. To be sure, there were regional variations - dialects, if you will. In parts of Canada, Louisiana and some Caribbean islands such as Haiti, the French influence was noticeable. In what was formerly Brazil, there were remnants of Portuguese. And of course in nearly all of North America, the language was still thoroughly permeated with Anglicisms. Furthermore, pronunciations varied so much that people from different regions were often utterly unable to understand each other. But officially, the entire continental confederacy adopted Spanglish as its dominant and primary language.

25th century Spanglish was a very different animal from what 20th century English or Spanish had been: It was much more *concrete*. The written language was both more *phonetic* and more *iconic*. That is, people reverted to the use of *signs* rather than abstract symbols. The difference between a sign and a symbol is that a sign resembles its referent (i.e. that for which it stands), whereas a symbol does not.

For example, “□” can be a sign for flower, and as such it would be understood by people from Hispaniola, Hungary or anywhere else equally. It is iconic. It is universal.

On the other hand, the word for flower is *flower* in Spanglish, *virág* in Hungarian, *Blum* in German, and whatever other combination of sounds and letters any other culture *arbitrarily* decides to call it. Language consists of words, and words are largely symbolic, abstract, they do not resemble the things for which they stand, and they are culture-bound.

Between 2200 and 2600, the written language in Hispaniola moved increasingly away from the symbolic and towards the iconic. Terms of endearment, greetings, emotions and many other things were conveyed through expressions that were abbreviated, phonetic or both. For example, a Hispaniolan wanting to say “Dear Ana, we’re very pleased to see you,” might write, “*der Ana, som muc felice to ver U.*” or he might use an icon such as “□,” a familiar indication of friendly feelings.

Expressions were also increasingly phonetic, and simplified: For example, Spanglish only knew one pronoun for “you.” U. This covered the former familiar “tu” as well as the formal “usted,” it served as subject as well as object.

Take the following sentence: “*My family and I bought a large field.*” In 25th century Hispaniolan Spanglish, this would read: “*mi famili e i comprar a grand camp.*” No more capital letters, no unnecessary characters.

Initially, the fact that language and writing became increasingly iconic and phonetic made sense. During the heyday of computer civilization, this meant more practical, more rapid, short-hand communication. However, in time the costs ended up outweighing the benefits. Modern “abbreviated” Spanglish was not up to the task of expressing abstract ideas such as “capitalism,” “platonic love,” “negative amortization,” or “biological reductionism.”

There arose a bifurcation of language between High Spanglish and Common Spanglish. For complex discourse, science, cosmology, technology and literature, High Spanglish was used. A select group of people working at Universities, think tanks, certain corporations and some government agencies was trained in High Spanglish. However, 99% of the people only knew Common Spanglish. To the vast majority of the population, the discourse and the texts of that small intellectual elite were an unintelligible foreign language.

Nor was popular culture able to bridge the chasm between High Spanglish and Common Spanglish. Most entertainment was in the form of the latter - or worse, in the form of unfathomable gibberish used for the expression of emotions, not ideas. Most of the lyrics to popular songs consisted of monosyllabic or two-syllable cries such as “bebe,” “lov mi” or “shakti” and “om.”

It was the genius of people such as Dr. Adriana Cruz and her daughter Isabel to be able to make important new ideas accessible to millions. Their pioneering efforts at the end of the 25th century made them the precursors of the *Great Awakening* fifty years later.

The renewal of the Western World became possible once the re-education of the entire society got under way. This happened from the middle of the 26th century onwards. The re-education process occurred through the rise of thousands of new schools called *Inductive*

Institutes - also called *FIRE* facilities. These facilities covered the entire age range of the population, from kindergarten level to life-long learning for the elderly.

The gist of the *Inductive Education* curriculum was captured by the rallying 4-word motto: “**Fact, Induction, Reason and Education**” (F.I.R.E.). A 20th century observer might have said that the schools were simply aiming to re-introduce *science*, and he would be right. In addition, the Institutes formalized the field of *Educational Linguistica*, which was created by

Adriana Cruz. This was a large-scale overhaul of language itself, which was a prerequisite for progress, which neither Common Spanglish nor High Spanglish were able to achieve.

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To be sure, the Western Hemisphere was not without schools during the preceding five centuries. These, however, increasingly became sources of obfuscation rather than clarification, darkness rather than light. Universities increasingly became the functional equivalent of what Churches had been during the Middle Ages: They became the seats and guardians of the received wisdom. They protected society against heresy which, like a computer virus, is ever ready to destroy the commonweal.

By the 25th century, Hispaniola became what the 20th century sociologist Pitirim Sorokin called an *ideational* society (See Box).

The function of schools is to disseminate knowledge. But from the beginning of the 22nd century to the middle of the 26th century, the knowledge which schools imparted to the populace consisted increasingly of beliefs, unproven theories and superstitions. In this age of technological retrogression, schools practiced obscurantism rather than enlightenment.

This was particularly so in the social and psycho-cosmological faculties. During the centuries of stagnation preceding the *Awakening*, the core curriculum in psycho-cosmology consisted of a body of literature that borrowed from a variety of classical sources and blended psychology, philosophy and mysticism.

Perhaps the best-known guru was Dr. Raghavan Chandragupta, author of many seminal texts, including his famous *Synthetic Cosmo Psychology for the Commonweal*. He was born in Mumbai in 2225 and moved to Hispaniola as a child, where he adopted the name Chandragupta as a reminder of some of India's great imperial dynasties. He received the Nobel Peace Prize in 2244 and the Kyoto Conflict Resolution Award ten years later.

For three centuries, *Chandrisism* was the dominant theoretical perspective in academic circles and in the social and psycho-cosmological disciplines.

The conceptual starting point was that the universe is guided by the laws of randomness and probability. For *practice*, Chandrisism drew inspiration from a variety of Eastern sources, including the teachings of Siddhartha Gautama and the *Dharma*, which preach the de-emphasis of worldly matters. The theories of the 20th century philosopher Krishnamurti were an equally important element, stressing the primacy of (1) fear, (2) pleasure and (3) meditation. Furthermore, truth was seen as experiential wisdom accessible through *yoga* and meditation - as in the *Zen* tradition

The influence of *Fatalism* was also strong. However, this harked back to Western *Calvinism* and the doctrine of *Predestination*, not the Islamic variety, as that culture remained alien and largely proscribed in Hispaniola.

UPWARD EVOLUTION, OR REPEATING THE CYCLE FOREVER?

In 1941, the great Russian-American Sociologist Pitirim Sorokin (*Social and Cultural Dynamics*) formulated a cyclical theory of history whereby civilization evolves through three stages, namely the (1) ***ideational***, the (2) ***idealistic*** and the (3) ***sensate*** phases.

(1) Medieval Europe was an ideational culture. It was based on *faith* and *belief* as its most important source of knowledge. (2) Aristotelian and Socratic Greece was an idealistic culture, relying on *reason* and *deductive logic* for its knowledge. (3) 20th century western society, finally, was a sensate civilization, in that it relied on empirical science for its knowledge, and also in the sense that its values were materialistic, hedonistic and secular. Sorokin's "sensate" civilization was what others might call ***modernity***.

According to Sorokin, these stages do *not* represent an upward and irreversible evolution. In this, the Russian sociologist differed from most 18th and 19th century unilinear evolutionists. For example, Auguste Comte's three stages of knowledge - (1) religion, (2) philosophy and (3) science - which parallel Sorokin's - are presented as *progressively more advanced and irreversible*.

But Sorokin saw civilization as moving through these stages ***cyclically***. That is, after society reaches the sensate stage, it can revert back to the ideational level, then go on to an idealistic era, and finally return to a renewed sensate stage, and so forth *ad infinitum*.

For example, Ancient Rome was a prime example of a sensate civilization: it possessed superior technology, and it was highly materialistic and hedonistic. After its collapse, it was followed by the ideational and otherworldly civilization of the Middle Ages, when the soul mattered more than the flesh, belief mattered more than fact. This era was, in turn, followed by the *Age of Reason*, i.e. an idealistic culture based on Cartesian logic and proof, rather than on faith. In the 20th century, the Western world became a sensate civilization with the advent of science, secularism, materialism and hedonism.

In retrospect, Sorokin's model seems to have been more accurate than the naive belief in progress to which such 19th century evolutionists as August Comte and Herbert Spencer subscribed. The cracks of sensate modernity were already visible by the end of the 20th century. Fundamentalist religion was surging back, to some extent among Christians in the West, and more virulently in the Islamic world.

Faith, eco-romanticism, new age religions and assorted other rebellions against science and reason were surging. In the end, modernity was replaced by ideational culture in most of the world, including the Middle East and Hispaniola.

But then, the Great Awakening occurred: Reason came roaring back, to be followed by a resurgence of empirical science - a new sensate era whose technological achievements would be as superior to those of the 21st century as the latter outpaced Roman engineering.

Chandristism was strongly critical of an opposite, and equally important element in Islamic culture, namely ***Skepticism***, for example the work of the great 11th century Islamic philosopher Al-Ghazali, whom many have seen as precursor to Descartes, David Hume and modern science. However, Al-Ghazali's work was anathema in Hispaniolan schools.

Chandristism was also deeply rooted in Western philosophy: It borrowed heavily from ***Cynics*** such as Diogenes (3rd century BC Greece) and Stoics such as Seneca (1st century Rome) and especially Epictetus (1st century Greece). The latter's statement "Do not seek to bring things to pass in accordance with your wishes, but wish for them as they are, and you will find them," was emblematic of Chandrist thought, and it was carved in granite at the entrance of the National University in Chichen Itza.

Another major element in the Chandrist university curriculum was training in post-Freudian and neo-Wilberian psycho-cosmology. The science of human development centered

around the following facts: (1) development is non-reversible; (2) the child is father to the man; (3) the past determines the present; (4) the past encompasses group heredity, individual heredity and acquired characteristics which, once acquired, become immutable parts of the self.

Finally, all formal education also required training in descriptive as well as inferential statistics. These quantitative skills were a *sine qua non* for (1) employment in policy-making bureaucracies, and (2) in the probing industry.

Chandrism, then, epitomized Hispaniolan thought during most of the first half of the 3rd millennium.

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And then came the ***Great Awakening***. As we saw earlier, leaders such as Dr. Adriana Cruz and her daughter Isabel spearheaded the intellectual revolution which put an end to the dominance of Chandrism, of the *Interweb Habilitation Verification Method*. (***IHVM***) and all the other obstacles to progress under which Hispaniolan society chafed for several centuries.

By the beginning of the 27th century, scholars such as ***Yo-jung Chen*** and others of the ***New School*** (see Chapter Seven) modernized science, psycho-cosmology and the entire educational system. It is not so much that these men and women totally *rejected* the classical origins of Chandrism - for example the Buddhist Dharma and the writings of Krishnamurti. What they did was an *eclectic re-interpretation* of many of the sources, rejecting the errors they identified and preserving what was correct. For example, members of the New School were able to prove the accuracy of the Zen principle of *experiential subject-object equivalence*, and they confirmed the *phenomenological eidetic reduction*.

The worst errors of Fatalism, Predestination and Post-Freudianism were identified. Neo-Wilberians reformed the psycho-cosmology without throwing the baby out with the bath water. That is, Ken Wilber's discoveries were amended and augmented, not discarded. Similarly, Darwinian Evolutionism was not only rehabilitated, but also submitted to an exacting research program resulting in enormous progress on that front. Other "classics" whose influences, far from waning, actually gained in importance included the great 20th century French cosmo-evolutionist Teilhard de Chardin, and the great 18th century Scottish skeptic and empiricist David Hume.

The ***New School***, the scientific revolution of the 27th century and the entire Great Awakening of which they are a part will be discussed in detail in chapter Seven.

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Last but not least, what was Hispaniolan group life like, during the half millennium preceding the Great Awakening? And what were some of the more popular customs, tastes and pleasures?

The word ***famili*** was enormously popular, because it denoted a vast variety of different groups. Many group forms were functional, but some were not. One type of ***famili*** focused on children, who were raised by a group of older guardians who were not their biological parents. There were professional familis, i.e. groups living and working together. There were leisure familis, i.e. groups which probed together and covered each other's assets. There were fight familis, which competed with each other in combat. Unfortunately, such familis often took on non-fight familis as well, which created havoc and landed many people in prison. A killing committed during combat between two fight familis was justifiable homicide, sometimes

requiring financial indemnification, but usually no criminal penalties. But obviously, if a member of a fight famili killed someone outside of that parameter, he was charged with criminal homicide.

Whatever a famili's designated identity was, whether a famili performed a positive social function or was feared and despised, there was one characteristic which *all* familis shared, namely *homogeneity*: Familis were homogeneous linguistically, physiologically, ideologically, economically. 99% of all groups spoke a common language, had a membership of people who looked alike, a membership which shared the same educational and socio-economic level.

For example, a group of twelve people might own a casino on the shores of Lake Maracaibo. All twelve members would be wealthy, they would all be tall and lanky, each member's IQ would exceed at least 125, and they would all be secret meat-eaters. Or a group of fifteen Fatalist zealots would share a household in central Canada. Every member would be blond, large and with low life-expectancy; they would consume large amounts of alcohol, and secretly advocate the secession of their region from Hispaniola; a favorite pastime of every member might be hunting (a crime) and target shooting. Thus, each famili was a tiny subculture. This was the result of the *assortative self-selection* which Hispaniolans had practiced for several centuries.

However, in one way all familis were heterogeneous - *gender*. There were very few single-sex familis. Homosexuality was largely replaced by *bisexuality*. This transition was initially demography-driven. Society's leadership encouraged it as part of its pro-growth agenda. Hispaniola needed as many babies as it could get. Reproductive sex was a job for everybody. All familis/groups had to have babies, whether they were fight groups, leisure groups, professional groups, or any other kind. Therefore, almost all familis included both men and women, and very few people were permanently gay (most of the population was permanently heterosexual). Bisexuality was accepted, but childlessness was frowned upon. For a minority of familis, artificial insemination and/or adoption were government-approved alternatives. What was *not* acceptable, was a famili which did not produce and raise children.

An interesting correlate of this were the prevailing esthetic standards: Both genders moved towards a more middle-ground unisex look. Hairlessness was in, for both men and women.

As to recreation and substance use, marijuana was the universal recreational substance, available over the counter to anyone over fifteen. Many heavier intoxicants were available through prescriptions.

Alcohol made an about-face: Until the late 23rd century, its use rose a great deal, causing harm to public health and public life. Then, it began to decline. Climactic conditions changed so much that the major wine-growing regions - California, Chile, etc - became wastelands. Stronger alcoholic beverages existed, but they were so expensive and so heavily taxed that only the very rich used them.

By the beginning of the 26th century, alcohol consumption was an antiquated custom comparable to smoking and chewing tobacco.

Finally, life became extremely sedentary. During the 21st century, the oil crisis and the virtulife computer revolution combined to initiate a wholesome reduction in mobility, be it commuting to work or leisure travel. However, by the 23rd century, virtulife technology was on

hold. Even the rudimentary version imported from ACPA was unaffordable to 95% of the people of Hispaniola.

Yet, the populace remained as home-bound as ever. The difference was that this was now no longer a choice, but a constraint. Travel outside of one's compound was hazardous. Society was largely horticultural. Air travel (both airplanes and balloons) was still available to the very rich and to society's leaders. Law enforcement agencies imported a ground-air vehicle manufactured in India, and a few thousand affluent Hispaniolans also owned such a contraption. But this was out of the question for 97% of the people, who were home-bound year-around.

6. 2150-2600: THE WORLD

During the 2nd half of the 22nd century, China and the other members of the Asian Co-Prosperity Alliance (Japan, Korea, Vietnam, etc.) objected more and more to the heavy imprint upon the UN by Eurabia and the two Islamic States (the Islamic Republic of Iran and the United Islamic Alliance).

UN headquarters had moved to Geneva in 2085, and for a while this satisfied most parties. However, in time, the location of the headquarters became a problem, because the host Continent (Eurabia) often made life difficult for delegates from any state that opposed its policies. Flights carrying delegates from East Asia and from Hispaniola were sometimes canceled or delayed, or those diplomats' entry into Eurabia was slowed down by extremely "thorough" customs and security checks. Such "unfortunate mishaps" usually occurred just when a crucial international vote was to take place, and they enabled Eurabia to deprive its opponents of their votes.

Many protests were filed about this practice by the NAU, by China, by India and by others - to no avail. Finally, the ACPA group was so exasperated that it decided to create its own alternative to the UN. In 2218, the members of ACPA founded the *World Council*, headquartered in Kyoto, and they sent a membership application form to the world's 273 independent states. The schism finally happened.

First to accept the invitation to join was the NAU (whose membership would be supplanted by that of Hispaniola 5 years later). India also accepted, as did 45 countries immediately, and nearly one hundred more over the subsequent decade.

The countries which refused most adamantly to join were the Europeans, the Arabs, the Iranians and most other Muslim nations - although Indonesia did join (while at the same time maintaining its UN membership).

There were henceforth three groups of members with regard to this matter: (1) those that remained loyal UN members, and *only* that. For example, Eurabian provinces such as France, Germany and most of the other ones, as well as most of the Islamic world. (2) States which switched to the Kyoto World Council and left the UN. For example some members of the ACPA (Vietnam and Korea). Finally, (3) the largest group: States which joined the Kyoto group but also maintained their UN membership. This group included the NAU (soon to be replaced by Hispaniola), China, Japan, India, Russia, Britain, Flandria, Switzerland, the Central European District, and several other Eurabian provinces.

The major states of the world decided to play it safe and to belong to *both* organizations. Not a single member of the UN Security Council that joined the Kyoto group gave up its UN membership. Pulling out of the UN and “starting your own game” was a feel-good strategy which no major state could afford. However much countries such as China and the NAU would have liked to turn their back on the corrupt, Eurabia-dominated Geneva institution, their interests dictated otherwise.

Membership in the two organizations claiming to be the “world’s parliament” bears some clarification: There were five supra-national confederacies in the world, including the venerable old European Community/Eurabia, the recently merged Hispaniola, the ACPA, the IRI, the UIA and one individual world power - India. The five confederacies had not merely supplanted their individual member states, leaving these to wither away. They were, in varying degrees, *federal* associations which often left considerable autonomy to their constituent members. The most powerful of these constituent members often continued to act quite independently - one might say even willfully - within their supra-national confederations, often throwing their weights around at the expense of their smaller confederate states. Eurabia, for example was dominated by France, Germany and Turkey. Hispaniola likewise by the NAU. ACPA’s overwhelming leader was China, while Japan’s impact was also greater than that of the other remaining members. The UIA was dominated by Egypt and Arabia.

Both the UN and the Kyoto World Council were structured so as to accommodate these realities. For starters, each of the five major supra-national entities enjoyed a seat on the Security Council. In addition, their largest and most powerful member states *also* had a vote both on that Council *and* in the General Assembly. Thus, every country which had enjoyed a seat on the UN Security Council in the 21st century retained that seat *in addition to* being *also* represented by the supranational confederacy to which it belonged. In effect, the NAU, Turkey, France, China, Japan and Germany each had double representation on the Security Council.

Brazil, which had also been on the UN Security Council before the Treaty of Chichen Itza, clamored for the same treatment as the NAU, but this was denied. Before its absorption into Hispaniola, Brazil had become a failed state. A majority of the UN membership decided that it was adequately represented through Hispaniola, and it withdrew its Security Council membership. The Brazilian delegation thereupon stomped out of the Geneva headquarters, and two months later joined the Kyoto World Council, becoming the only major country which did not belong to both organizations.

India and Britain were the only other great powers which did not have dual representation on the UN Security Council, as they did not belong to any supranational confederacy. Unlike Brazil, they accepted this and remained active members of the UN - although they also happily joined the Kyoto World Council as well.

For the UIA and the IRI, the situation was somewhat different: The UIA was also a confederacy, and its most powerful members - Egypt and Arabia - enjoyed double representation in the General Assembly. However, no member country of the UIA had ever been a permanent member of the Security Council, so the UIA did not face Brazil's problem.

As far as the IRI is concerned, that powerful country could hardly be viewed as a confederacy. Its expansion occurred through conquests and annexations. It was finally granted a permanent Security Council seat in the 23rd century, but none of its regions could ever expect double representation.

Dual representation was also enjoyed by several dozen other, less powerful states, but only in the General Assembly. For example, most European countries - including Spain, Italy, Flandria, Poland and Russia - enjoyed individual membership in the General Assembly, even though they were also represented there by Eurabia. Dozens of Hispaniolan and ACPA member states also enjoyed dual UN representation in the General Assembly.

At its foundation in 2218, the Kyoto World Council's structure was essentially the same as that of the UN, which Kyoto was hoping to first emulate, and then replace. In time, as the two organizations vied for supremacy, Kyoto opened the door to additional duplications in membership, based on factors such as GDP and population. This gave China's vote an enormous weight, and it caused no end of controversy.

Now for the world's major regions:

1. Eurabia: Until the middle of the third millennium, Eurabia was one of the most prosperous and technologically most advanced parts of the world, well ahead of Hispaniola. To be sure, not all of the region was equally well off: The Central European District and Russia were poor and depopulated wastelands (see below).

A. The Economy, Energy and technology: by the middle of the 22nd century, world oil production was down 90% from the peak reached in 2020-2025. Luckily for Eurabia, its reserves (Russia, the North Sea) were large, and it enjoyed a special relationship with the Middle East. Furthermore, Europe anticipated the need to shift to alternative energies more wisely than North America, and its transition was therefore less cataclysmic.

Alternative energies were used abundantly. Which *sort* of alternative energy was developed most aggressively depended on the region and on the natural environment. The windy Dutch flat lands were dotted with thousands of state-of-the-art windmills that produced nearly half of Flandria's electricity. The mills were erected not just on land, but also far offshore into the North Sea, whose shallowness made this possible. Spain relied on vast arrays of solar panels, some covering dozens of square kilometers. The coasts of Normandy and Brittany provided France with significant amounts of wave power and tidal power. In addition, France and several other European countries continued to rely heavily on nuclear power.

The dwindling supply of oil was carefully rationed. The lion's share went to public transportation - including the public airlines and urban bus systems - and priority vehicular services such as law enforcement, fire protection, ambulances and essential truck deliveries. The remainder was allotted to private parties, prioritized by occupation. Most of the time, individuals received their allocations only through the groups and organizations to which they belonged or

for which they worked. For example, teachers had to go through their schools, employees had to apply for their ration through their companies, etc. At the very end of the line stood private consumers who, on rare occasions, applied for and received an allotment for their own private transportation or recreational use. Only the very wealthy could afford the exorbitant cost of petrol obtained in this manner. The Eurabian rationing system worked much more effectively than the one attempted in Hispaniola, because it did not contain the huge loopholes and exceptions of the American plan.

The vast majority of traffic consisted of electric cars, hybrid cars, and extremely low-mileage two and three-wheel vehicles. European streets and roads saw far more scooters, motorcycles, mopeds, two-seaters and assorted other contraptions than traditional automobiles.

To be sure, transportation was stratified: Private vehicles were rare, and enjoyed only by an elite of public servants, private corporate executives and celebrities. These vehicles included a few flying cars, developed experimentally in Stockholm by the *Scandic* company. However, mass manufacture of affordable private land and airborne vehicles never materialized.

A final piece of the equation was the large-scale return of lighter-than-air dirigibles. Slow but clean and comfortable air balloons transported millions of people over short distances for work and leisure.

The Eurabian transition to a petrol-free environment and its solution of the energy and transportation crisis became a model for the rest of the world.

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Eurabian technology was in the forefront. The Continent produced some of the best airplanes, dirigibles, computers, recreational equipment, consumer goods and pharmaceutical products in the world. Its wines, spirits, cheeses and many other agricultural products remained among the world's best. Only in electronic technology was it surpassed by ACPA

Balloons: Major Form of Transportation



Furthermore, French and Swiss engineers working at the European Council for Nuclear Research (CERN) in Geneva developed several new high-precision weapons to be used both in open warfare and in urban crime-control. The gist of the new technology was a combination of laser and chemistry: By combining electromagnetic radiation and the injection of *haloperidol* mixed with a cannabis derivative, researchers were able to induce total neurolepsy in laboratory subjects. This led to the manufacture of powerful brain disablers with applications for both the battlefield and urban combat against criminals and terrorists.

The main production contract was given to Novartis, in Basel. The company - the largest in the world - developed a line of products ranging from small caliber weapons used by law enforcement, to very large delivery systems that could disable an entire division in a few seconds. The proximate effect was a deep state of unconsciousness and the blocking of the autonomic reflexes. The long-term effect was permanent psychosis and brain destruction. The weapon became known under the generic name of *Neurobative*.

By the beginning of the 23rd century, Eurabia was exporting over 150 billion solars' worth of *Neurobatives* to dozens of countries, including Hispaniola, the members of ACPA, the UIA, the IRI and hundreds of local jurisdictions.

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The Eurabian standard of living was among the highest in the world. Using quality-of-life indicators such as life expectancy, technology, education, crime rate, environmental pollution, purchasing power and housing, most of the Eurabian Continent was able to provide its five hundred million people with a better life than most other parts of the world were - with the exception of China and some other ACPA states.

This is not to say that conditions on the Continent remained as good as they were in the 21st century. It was, at best, only able to stave off the sharp decline experienced in the Western Hemisphere.

By the 23rd century, Eurabia's population declined to about 500 million - maintained at that level by immigration from the Islamic world and from China (voluntary) and from Africa (some of it forced). Life expectancy was stable at 80 years, with women outliving men by a couple of years.

Communication technology atrophied somewhat, due to the fact that Eurabia relied primarily on its own Etherweb, dominated by a Franco-Arab protocol and surrounded by a firewall which made access to the world's other three major etherwebs difficult for the elite and impossible for most.

Space travel came to an end during the 21st century. Only communications satellites were maintained (about nine hundred of them), and to this end the Eurabian Space Agency kept up the maintenance of two space stations, in collaboration with ACPA.

B.: Eastern Europe and Russia: The Eastern portion of the Eurabian Continent was its Achilles Heel. It became a dilapidated, impoverished and depopulated wasteland. Countries such as Poland and Hungary became Europe's backwoods, dotted with ghost towns and cities - like Budapest and Krakow - whose population was cut in half. Most of the remaining inhabitants of Prague and Bucharest were gypsies. Poverty and crime were rampant.

At the same time, the natural environment benefitted from this retrogression, as much of the countryside returned to a state of magnificent wilderness. Transylvania, occupying nearly two hundred thousand square kilometers in Rumania and Hungary, became a vast national park and a popular tourist destination.

As to Russia, it, too, suffered from enormous economic and demographic contradictions: During the 21st and 22nd centuries, the country had parleyed its oil into a position of some wealth and power. However, that temporary windfall only benefitted a corrupt oligarchy, and the resource soon ran out.

By the early 23rd century, the provincial population was overwhelmingly Muslim or Chinese, and conditions in the provinces were appalling. The exception to this was the greater Moscow area. That city became the gambling and sex capital of the world, far exceeding the excesses of Las Vegas a few hundred years earlier.

Gambling had a different character on different continents: In China, it was a transparently legal and centralized industry headquartered in Macau and highly regulated by the government as a major source of revenue. In Hispaniola, "probing" was widespread, but chaotic and spread over thousands of small, grassroots operations which generally escaped government control. In Russia, gambling was an organized criminal racket, accompanied by gang warfare and pandemic violence. A few dozen gambling cartels controlled the entire industry, all located in Moscow. That city's metropolitan population was still Russian, and it included several hundred billionaires. As a result, most of the 8 million people living in this enclave enjoyed the highest standard of living in the world - until many of them met with an early and violent death. Their combined income exceeded that of the remaining 55 million Russians.

C. Domestic Politics and Culture: In the beginning of Europe's Arabization during the 21st century, some feared that the influx of millions of Muslims, their higher birthrate, and increasing intermarriage with Europeans would radically alter the culture, making Europe an Islamic theocracy. However, cultural assimilation went in the opposite direction: Instead of the immigrants islamizing the natives, it is the native Europeans who secularized the newcomers.

During the next half millennium, Western Europe managed to retain its modernity - however precariously. European culture was deeply rooted in rationalism, secularism, and equality. Democracy and the separation of Church and State were cherished values. The fruits of science and technology were recognized. The pleasures of materialism, consumerism and popular culture were too difficult to resist. Thus, European culture withstood the great demographic upheaval of the 21st and 22nd centuries. Europe became Eurabia, but more demographically than culturally.

Islam became by far the most common faith, followed by 90% of believers. However, agnostics and atheists were the second and third largest groups, respectively. And the noxious alliance between Islam and radical retrograde politics called *Islamofascism* in the 21st century, and feared as the next totalitarian wave to engulf the world, never materialized.

...At least not in Eurabia. In the Middle East, the situation was somewhat more dire. I shall return to this in the next section of the present chapter. But Eurabia did not experience a large-scale religious radicalization. In fact, during the middle of the 22nd century, Eurabian Islam underwent a humanist reformation. The movement began among Parisian intellectuals, and spread to other urban and cultural centers, including Montpellier, Barcelona and Malaga. It represented a blend of European Enlightenment and Koranic Canon, and its followers became known as the *Reveilleurs* (the “awakeners”). A century later, a majority of European believers belonged to this Muslim denomination.

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Despite the moderation of European Muslim culture, there were costs to the transition. For one thing, women never achieved full equality. The government provided ample protection and generous benefits to women, but this was a paternalistic and patronizing benevolence, predicated on strict female obedience. Even in the 26th century, Eurabian women never reached the level of emancipation which they had enjoyed in the 21st century, and which was still being enjoyed in Hispaniola.

Crime remained at a level which far surpassed what it had been at the beginning of the millennium. White-collar crime - corruption in both the private and the public sector - grew as one moved across the Eurabian map from Northwest to Southeast. Thus, there was more corruption in France than in Scandinavia, more in Italy and Spain than in France, more in Greece than in Italy, more in Albania and in Turkey than in Greece, etc.

Finally, Eurabia remained a linguistic mosaic. There were four major official languages - used for example in the Eurabian Parliament and in all other official affairs. These were French, German, Arabic and Spanish. However, a majority of the population spoke a number of evolving *patois* that were hybrids resulting from centuries of cultural amalgamation. The most important of these was *Frabic*, a mixture of French and Arabic, spoken by over one hundred million Europeans. There were other new forms, for example a new version of Slavic, different from Russian, incorporating Polish, Czech and Slovakian elements.

D. Foreign Policy: From the 2nd half of the 22nd century through the 1st half of the 26th, Eurabia dominated Africa. It re-established this domination under the pretext of assisting the Dark Continent, as conditions in Africa became, indeed, progressively “darker.”

After the NAU’s disastrous African war, its departure from that Continent, and the general decline of its worldwide influence in the 21st century, it was open season on Africa - as it had been during the 19th century. The race was on between the other great powers, including Eurabia, the UAI and the IRI, to (re-)establish a major presence in Africa.

China’s participation, and that of the rest of the ACPA, was less enthusiastic. This was not for lack of ability and opportunity. After all, China had long maintained a strong presence in the Sudan as well as in Nigeria. However, once these countries’ oil had become depleted, the Asian countries lost interest in them.

Eurabia’s African policy and that of the two Islamic powers were entirely different: Throughout the 22nd century, those states gradually increased their presence in Africa, claiming to do this for the benefit of Africans. In fact, it was the worst form of neo-colonialism. Eurabians established large colonies in Sudan, Mali, the Central African Republic, Senegal, and every other

part of North and West Africa - the areas formerly under French control.

In the early 23rd century, Eurabia also tried to take over Nigeria. However, Britain - not a member of the Continental Confederacy - objected, and there was a brief war over this. Britain received military assistance from Hispaniola. There was an eight-months long conflict fought largely by proxy. That is, forces from Chad and Cameroon, led by French officers, attacked Nigerian troops led by British officers. Hostilities came to an end when the Eurabians abandoned their effort, realizing that there were many more profitable colonial opportunities elsewhere in Africa.

The Eurabians in many parts of Africa took over local economies and local governance through indirect rule. Africa's chief resource became its manpower. Ever since the 21st century, Eurabia's perennial problem had been a sub-replacement level birthrate. Without the influx of immigrants, Europe was unable to sustain its population, its labor force, and its cushy lifestyle. However, by the middle of the 22nd century, the inflow of Muslim and other immigrants slowed to a trickle.

That is why, and when, Eurabia came up with the "African solution." The Dark Continent suffered from excess population, often starving and jobless. It had millions of able-bodied workers to be had for a trinket. Thus began a centuries-long policy of African "labor transfer" to Eurabia.

Was this a form of body snatching and a return to slavery, as enlightened critics averred? Probably. To be sure, the legal framework was quite different from that of 19th-century slavery. At the height of the labor transfer movement, in the 24th century, Eurabia imported over seven million laborers from Africa every year. Each worker was given a contract, much like indentured servants had been in colonial America. The contracts were for a fixed duration of one or more decades. They placed severe limitations on the individual's rights, forbidding marriage, parenthood, home ownership and mobility, among other things. On the positive side, a majority of transferred workers were able to buy their emancipation within their lifetime.

To a much lesser extent, Eurabia engaged in a similar practice with Hispaniola. Because that Confederacy was perennially broke, it also resorted to labor export as a source of revenue. The flow of indentured workers from the Western Hemisphere was far smaller than the one emanating from Africa - a few hundred thousand per year during the 24th century. Most of these came from South Hispaniola, especially the chaotic Brazilian region. Unlike Africa, the central Hispaniolan government did not admit Eurabian officials, to take over and organize the flow of labor, as they did in Africa. Instead, it sold licenses to European privateers, who moved to the Western Hemisphere and went about recruiting workers for export across the Atlantic. Hispaniola was in many ways economically dependent upon, and exploited by Eurabia (as well as China). However, it never lost its political independence to those more powerful and affluent states. For that, its deeply ingrained instincts for freedom and independence were too strong.

Finally, the two great Middle Eastern Islamic Republics also engaged in massive labor transfer out of Africa. Their version of the policy was far more sinister and reminiscent of the worst aspects of classical slavery. I now turn to that part of the world.

2. The United Islamic Alliance and the Islamic Republic of Iran:

A. The Economy, Energy and Technology: Because the Middle East possessed 70% of the world's remaining oil reserves, the region was able to weather the transition to an oil-free global economy more smoothly than the rest of the world. Oil, while it lasted, also put the region in an exceptionally powerful bargaining position in the pursuit of its interests.

Thus, both the UIA and the IRI enjoyed a higher standard of living than did Hispaniola. However, the two differed in terms of their political priorities, and they used their abundant resources differently. Whereas the government of the UIA emphasized the well-being of its population, maximized education, culture, public health and leisure services, the IRI was far more militarized, focusing on foreign crusades and military campaigns. The contrast between the two great Islamic powers was reminiscent of that between Athens and Sparta.

To be sure, neither state resembled the egalitarian societies of the Western world in the 21st century. The distribution of wealth was highly unequal not because of the natural forces of the free market, but as a result of government regulation. There existed a quasi-caste system, with mandatory pay scales for every job classification.

During the 21st century, much of the Arabian peninsula's economy centered around lavish luxury resorts and a tourist industry geared towards the super-rich. A century later, this sector of the economy had collapsed. The rotating sky hotels, the tourist space centers, the artificial, domed ski slopes and the underwater resorts all lay in ruins. This was not only because oil revenues dried up, but also because of a belated but wise change of direction by the UIA during the 22nd century. Influenced by that confederacy's new members - Egypt, Lybia, Syria, Jordan, Iraq - the federal government in Medina switched its investment priorities toward public services which benefitted the general population, including education (for men only), health, housing and recreation.

By the 24th century, the UIA had some of the world's best universities, including the University of Cairo and the Jerusalem Institute of Advanced Physics.

The former was advancing archaeological research to unprecedented levels. For example, a new form of uranium-lead dating enabled Egyptian scientists to peer into a past *1000 times* more distant than that accessible through plain radio-carbon dating.

Between the years 2,390 and 2,415, scientists made a stunning discovery: About 41 million years ago, at a time when the Arabian peninsula was fertile, it had been inhabited by an advanced civilization. The species was given the generic name of *para-hominoids*. It preceded *homo sapiens* by dozens of millions of years, but it was more highly evolved and more intelligent, and it was therefore designated as a "parallel" human.

As to their civilization, these creatures became known as the *Paradelphians*. The reason(s) for their extinction was not clear. What *was* now clear, however, is that the history of civilization on earth did not begin with the Middle Eastern Neolithic Revolution 10,000 years ago, as was assumed until then. The *Paradelphians* who lived over 40 million years ago possessed electronic technology, airborne transportation and even non-verbal brain-to-brain communication. Historians now realized that if one such prior terran civilization had existed dozens of millions of years ago, it was possible that there had been earlier ones as well. After all, the earth was well over five billion years old, and life had existed for at least half of that time. Therefore, thousands of millions of years had passed during which earth probably experienced a long cycle of civilizations coming and vanishing - some lasting hundred times longer than modern human civilization had lasted thus far.

At the Jerusalem I.A.P., the research focus was on physics, especially the very small, i.e.

particle physics and quantum mechanics. During the 25th century, Arab and Jewish scientists, in collaboration with CERN (the European Organization for Nuclear Research) in Geneva, made progress towards achieving action-at-a-distance. That is, they achieved sub-atomic reactions in which effect followed cause in *less time than* it took light to cover the intervening distance. However, *simultaneous* action-at-a-distance continued to elude them. What stymied all research was the incompatibility of Heisenberg's uncertainty principle and deeply ingrained assumptions of pre-destination - i.e. causality - in Middle Eastern culture. Not until those assumptions were jettisoned could further progress be expected, possibly including the break-through of time travel.

B. Domestic Politics And Culture: Politically, neither the UIA nor the IRI resembled the modern, western, democratic states of the 21st century. Both states were *authoritarian*. The IRI more so than the UIA, although even it was not quite *totalitarian*, for example in the sense of Stalinist Russia and Maoist China during the 20th century. The two confederacies were among the world's most crime-free areas - lack of freedom and low crime rates often going hand in hand.

Both states were theocratic, the IRI more so than the UIA. Both viewed the separation of Church and State as a pernicious policy that could only lead to political immorality.

Both treated women very differently from the way they treated men, again the IRI doing so more radically than the UIA. Women were permitted to vote, but not to file for divorce, nor to pursue a graduate education. For a woman to remain childless, she had to prove that she was sterile. Most such women were then ordered to raise adoptive children. At the same time, women enjoyed many protections. They were not subject to military service, nor were they required to have a job, although they had the right to have one (at far lower pay than men). The criminal justice system treated women leniently, exempting them from execution regardless of their crime.

Both the UIA and the IRI permitted male polygamy. In the UIA, a man was permitted to marry a maximum of 4 wives, *if* he could demonstrate solvency. Only 15% of men had more than one wife. In the IRI, there was no maximum number of wives imposed, and nearly half of all men had multiple wives. The IRI's sex ratio of 80 men for every 100 women had a great deal to do with this.

All in all, the largely Suni UIA was a more moderate and more enlightened place than the largely Shiite IRI. However, some parts of the UIA had a Shiite majority. For example, 85% of Iraqis were Shiites, as were 80% of the Lebanese. These regions were a constant thorn in the side of the federal government in Medina, which had to maintain permanent peace-keeping garrisons there. The UIA's Shiite provinces experienced constant violence, and this was often encouraged by the IRI. The Persian empire would have liked nothing better than to annex Iraq, Lebanon and other portions of the UIA. However, it refrained from exacerbating its relationship with the other powerful Muslim state, realizing that it was its tripartite alliance with the UIA and with Eurabia which gave it such unsurpassed power to cause mischief on the world scene.

C. Foreign Policy: The two great Islamic states practiced African Labor Transfer in a much larger and cruder manner than did Eurabia. At the height of the practice during the 24th century, the UIA and the IRI each imported about six million African workers every year. The rules governing the "trade" were harsh. Bondage was lifetime, and there was no provision for the

emancipation of offspring. This was a return to old-fashioned slavery in its crudest form. As a result of “labor transfer” to the UIA, the IRI and to Eurabia - a total of nearly 15 million men per year - Africa’s population declined, despite its continued high birthrate.

Within the Islamic world, the Shiite areas were generally the most martial and militant. However, even within the Shiite areas, the violence took two distinct forms: some areas were failed states and devoid of any organized government control. For example, vast swaths of Afghanistan, parts of Pakistan and such parts of the UIA as Southern Lebanon and Iraq.

Afghanistan was only partially under Taliban rule - for example the Kabul area. Other areas were under the control of local tribal chiefs. The provincial tribes and the Taliban collaborated in producing much of the world’s opium and heroine, but they fought intermittently over turf and drug market shares. Over half of the drug exports went to Eurabia. That continent was rich and indolent, with a long tradition of drug use. Other buyers included the UIA and Hispaniola. The latter was the world’s primary producer and exporter of marijuana and other cannabis-based products, which it traded in exchange for opium. About 3% of the heroin crop went to India, and domestic consumption accounted for an even smaller percentage. China, Japan, Korea and the other Far Eastern countries had little use for Opium products.

The IRI behaved differently. It was a powerful and orderly state. Its foreign policy was aggressive, militant and expansionist. Its rule was more theocratic than that of any other country. Drug use was punishable by death. The IRI was one of three Middle Eastern powers in possession of nuclear weapons, which was one reason why the rest of the world put up with its imperialism.

Nuclear weapons were also in the hands of the governments in Islamabad and Medina. Recall that Pakistan’s Taliban government had already carried out one devastating nuclear war against India in 2064. This was followed by a peace-keeping occupation which lasted well into the 22nd century. When the United Nations forces (mostly provided by the NAU) finally departed, it did not take long for the situation in Pakistan to unravel. There developed two Taliban factions - one relatively moderate and supported by the urban population, the other one more radical and based in rural provinces such as Baluchistan and the tribal areas.

In the middle of the 22nd century, the extremists set up their own secessionist government in Baluchistan, and Civil War ensued. Most of the world understood that the Islamabad government, retrograde as it was, represented the lesser of two evils. Were the rebels to get their hands on Pakistan’s nuclear arsenal, there was no telling what they might do. Even the militant, Shiite IRI, next door, understood the dangers of a lawless and fanatic band running amok and possessing nuclear weapons. Thus, many countries came to the support of Islamabad, which was able to beat back the rebel wing of the Taliban. Even so, Islamabad was not able to recover Baluchistan, the Tribal Areas and the Northwest Frontier area. The secessionists remained in permanent control of two thirds of the country. However, Islamabad secured the country’s nuclear arsenal, to the great relief of the rest of the world.

The armed conflict between Pakistan’s two factions became a permanent, low-level condition for the remainder of the century and well into the 23rd century, occasionally dormant and then again flaring up. It often took the form of terrorist attacks against civilian targets by the secessionists, and reprisals in the form of military action by Islamabad. But at least the rebels never got their hands on Pakistan’s nuclear weapons.

The UIA was the third nuclear power in the Middle East. Medina’s acquisition of nuclear weapons occurred “via Jerusalem.” That is, after Israel peacefully “dissolved” into Palestine, the

latter inherited the Jewish State's nuclear arsenal. In turn, when Palestine was absorbed into UIA, its nuclear weapons automatically reverted to the federal authorities in Medina. Commendably, the UIA never resorted to the use of nuclear weapons.

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The Middle East's relationship to the rest of the world was secure and comfortable for the affluent and powerful Muslim world, and frustrating for the rest of the world. Both the UIA and the IRI gave tacit support to Arabian Sea and Indian Ocean piracy. The world understood that they had sweetheart deals with the pirates: In the first place, no UIA or IRI ships were ever hijacked for ransom or attacked. Furthermore, Eurabian traffic also enjoyed protection - for a fee to be paid to the Muslim governments. On the other hand, the pirates were given a free hand when targeting Indian ships, Far Eastern ships and above all Hispaniolan traffic, upon which it was open season.

These practices led to several military confrontations, culminating in a major naval engagement in 2388 - the ***Battle of the Seychelles***. The IRI had always been particularly strident in its condemnation of the Hispaniolan "infidels." Its long-term effort was to exclude Hispaniola as much as possible from its own backyard, i.e. the Indian Ocean and all surrounding lands. While the UIA was more suave, it too, was happy to weaken Hispaniolan commerce and world influence.

July 3, 2388: Battle of the Seychelles. Iran's Surface-to-Surface *Sayyari* fires at the *Tijuana*



Piracy was part of the cost of doing business. As long as the cost to the world did not exceed a few billion solars and a few thousand lives in any given year, it was grudgingly accepted. However, in the fall of 2387 the Hispaniolan cruise ship ***Tijuana***, carrying three thousand tourists and a crew exceeding one thousand, was seized by Kenyan pirates some 300 miles off the African coast. During hostage negotiations, the *Tijuana* crew overpowered the

pirates on board and made for the Seychelles Islands. Pursuing pirates launched several torpedoes which hit deep below the waterline. The *Tijuana* sank within 45 minutes, long before units of the Indian navy could reach the scene. There were fewer than 200 survivors, out of nearly 4300.

A major diplomatic crisis followed, along with an investigation by the Piracy Committee of the Kyoto World Council (the United Nations refused to investigate, despite Hispaniola's insistence). The investigation revealed a sordid tale of UIA complicity:

Three weeks before the highjacking, as the *Tijuana* sailed through the Suez Canal, Egyptian officials had boarded the ship for routine inspection and to arrange the customary escort transfer agreement. By international law, ships sailing down the East Coast of Africa were provided military escort. Which navy provided the escort was determined on an *ad hoc* basis for every transit. Sometimes India provided the protection, sometimes it was the IRI, on occasion some other navy assumed the responsibility, but by far the most frequently, the protecting task force consisted of units of the UIA navy. Whoever was selected for the job on any given occasion, the naval units would typically pick up the protected vessel as it entered the danger zone, for example in the Gulf of Aden. It would then accompany the commercial or cargo vessel across the danger zone.

The *Tijuana* crossing was no different from the hundreds of other similar events every year. A few days after coming through the Suez Canal, it entered the Arabian Sea under UIA navy escort. The next morning, when captain Martha Mendozon arrived on the bridge, she discovered to her horror that the escort had disappeared. She considered turning around, but it was too late. The *Tijuana* had cleared the horn of Africa and it was approaching the Kenya coast. Less than one hour later, a small flotilla of pirate ships approached the *Tijuana* and half a dozen men boarded it. The World Council investigation revealed the obvious, namely that the Egyptians had tipped off the Kenyan pirates that the *Tijuana* would be unprotected. And safe for the picking.

During the following months, the Hispaniolan government demanded compensation from the UIA, and the arrest of the Kenyans responsible for the death of over 4000 innocent civilians. To no avail. In June of 2388, Hispaniolan naval units sailed to the Indian Ocean. Through the use of dirigibles, troops were put ashore in Kenya in an attempt to pursue and apprehend some of the guilty party.

The UIA made a countermove by sending units of its own navy to the area. Others lined up on one side or the other of the looming conflagration. India, siding with Hispaniola, sent a task force to assist. The IRI on the other hand, always itching for a confrontation with "Satan" sent a carrier to back up its Muslim ally. The Eurabians accused Hispaniola of over-reacting, arguing that there was no evidence of Egyptian complicity. For the rest, they assumed a neutral stance, refraining from any tangible involvement in the growing crisis. China and the rest of ACPA, finally, expressed moral support for Hispaniola, but otherwise stuck to their familiar pragmatic/opportunistic course of action of avoiding costly entanglements.

By July, the combined UIA-IRI forces felt confident that they could either annihilate or expel their opponents from the Indian Ocean. They had 120 ships at their disposal, including five helicopter carriers. Hispaniola's only airborne capability was a Ottawa-class dirigible carrier, protected by half a dozen 7000-ton frigates. It also had five retrofitted Los Angeles-class nuclear submarines, against ten vastly faster and more mobile Iranian subs modeled after Russia's Akula. Finally, whereas Hispaniola's air defense depended largely on dirigibles, the Arabs and Iranians

relied on helicopters and vertical takeoff Harrier VII type technology.

On July 3, 2388, the UIA and the IRI attacked. Hispaniola's flagship carrier was hit, but not fatally. As it made its escape, the remainder of the fleet engaged the enemy in rear-action counter attacks, sinking several enemy frigates, but losing an equal number itself. The Indians at first provided some assistance, for example by drawing out several Iranian submarines and annihilating three with depth charges. However, one enemy sub scored a full hit on India's flagship (a dirigible carrier), sinking it within 20 minutes with no hope of rescuing its 1200-man crew. This caused the Indians to lose stomach for the fight and to withdraw entirely.

By nightfall, the Hispaniolans were withdrawing as well. They had lost 29 ships, including ten frigates and four submarines, but not their flagship. The Muslim allies lost 12 ships altogether. Casualties totaled 13,550 on the Hispaniolan side and a combined 4,470 for the UIA and the IRI.

Clearly, for the foreseeable future, the two great Muslim allies could lay claim the Arabian Sea and the Indian Ocean as their *Mare Nostrum* ("Our Sea," as the Romans called the Mediterranean two and a half millennia earlier). More than two hundred and fifty years would pass before Hispaniola became once again a serious challenge, and before it could once again rise as a protector of freedom of the high seas.

3. ACPA:

A. The Economy, Energy and Technology: The first half of the 3rd millennium was an era of East Asian world leadership. While Eurabia and the Middle East functioned reasonably well, China and her Asian confederates led the world in technology, in space exploration, in standard of living, in public health and in the quality of their culture and the education of their people.

China, Japan and the other states making up ACPA pursued space exploration and colonization. The late 21st and early 22nd centuries were marked by setbacks. Recall the loss of several cargo ships returning from Jupiter, and the explosion of the Shenzhou 16 space station in 2085, resulting in hundreds of deaths.

Soon Asian scientists realized that they had erred in focusing on Jupiter and its satellites. The giant planet's moons were among the largest in the solar system. They included Ganymede, Callisto, Io and Europa, all large satellites rich in valuable minerals which humans were eager to exploit. Some of Jupiter's moons seemed hospitable to life, and therefore potentially colonizable. What was overlooked, however, were the giant planet's lethal radiation belts.

Chinese and Japanese scientists finally turned their attention to a more promising planet - Saturn. Even though the ringed giant is twice as distant from earth as Jupiter is (on average 1.2 billion kilometers, as opposed to 600 million kilometers for Jupiter), its satellites held a greater promise for exploitation and colonization. This was already so for Titan, which was larger than the earth's moon, had an atmosphere, and was believed to harbor life, at least at the microscopic level.

Furthermore, in 2198 Dr. Yao Jun, of the Shanghai Center for Astrophysics, discovered another large and potentially life-harboring satellite circling Saturn. He named it *Shen Kuo*, after the ancient Chinese astronomer. While the list of solar system moons had been growing by dozens of newly discovered bodies every year, the discovery of *Shen Kuo* was astounding. The

entire astronomical community wondered how it had been possible to miss a satellite nearly as large as the earth's own moon for so long.

Asian space exploration, colonization and exploitation reached their peak in the 23rd century. At that time, ACPA had a population of 5 billion - nearly half the planet. While some parts of the world were experiencing population decline (Hispaniola due to a high mortality rate, Eurabia due to low birthrate, Africa due to "labor export"), this was certainly not the case for China and the surrounding countries. Furthermore, the earth's resources were not what they had been in the 21st century. There was a chronic shortage of protein. Thus, the dream of exporting excess population was always on the mind of ACPA authorities.

The focus was on three sites: Mars, Titan and Shen Kuo. Of the three, Mars had the oldest and largest colonies. These absorbed some excess Asian population. The population of Mars grew from 100,000 in 2150 to nearly a million a century later, half born on the red planet, half made up of immigrants. By then, Mars was a net exporter of raw materials to earth, amply paying the mother land back for its imports from her.

The colonization of Titan was more difficult. For one thing, it was ten to twenty times further than Mars, depending on its orbital position. Early in the 23rd century, China and Japan developed a proton reactor which, miniaturized and attached to the Wakata rocket series, enabled them to accelerate to ten times the speed of America's 21st century Space Shuttle, i.e. to nearly 300,000 kilometers per hour. Even so, a one-way trip to Titan took over 5 months.

Furthermore, Titan's surface temperature is minus 170 degrees Celsius. Humans could only survive below the surface. At 75 feet deep, the temperature reached minus 55, and only at three hundred and fifty feet below the surface did the temperature rise to an agreeable 65 degrees. One reason why ACPA persisted in its efforts on Titan was the great abundance of hydrocarbons, whose exploitation would alleviate the earth's energy problems.

The discovery of Shen Kuo altered the space equation - greatly in favor of ACPA. The new satellite possessed many of the same qualities as Titan, including an atmosphere, some primitive life, and its weather was far more hospitable, due to geothermal activity.

In order to expedite travel to Shen Kuo, ACPA began construction in 2212 of the very large space station *Guizhou II*. It was completed ten years later, and would henceforth serve as the launching pad for traffic to Mars, Titan and especially Shen Kuo.

Because of the immense cost, ACPA solicited and received help from Eurabia, Russia, the UIA and other governments. It also sold shares to large corporations. It became an international public-private project, run by ACPA. In exchange for their cooperation, participating countries and companies received access to the station for their own space efforts and for their communication needs. By and large, this meant the latter, as ACPA was the only one with a solid space program during the 23rd century. *Guizhou II* became the *de facto* traffic cop for most of the earth's 12,000 communication satellites. Hispaniola, India, Eurabia, the UIA, the IRI and just about everyone else depended on the space station, which was nominally international, but in fact run by ACPA. The station was also available for research and commercial ventures to corporations willing and able to pay fees ranging up to hundreds of millions of solars.

B. Domestic Politics and Culture: Not only did ACPA lead the world technologically and materially. It also did so culturally. The "mind sciences" became very prominent, and their character changed a great deal from 21st century Western "Psychology." The focus was now

more on the group than on the individual. “Minding” was viewed as a collective activity.

The new mind sciences blended old traditions and new discoveries. The importance of *relationships* had been central to Confucianism, and the *relativism* of human life had been one of Taoism’s main themes. The importance of *introspection* was the hallmark of the theories and practices of Zen. Achieving *Moksha* - liberation from worldly suffering and from the cycle of reincarnation - had always been one of Yoga’s primary goals. *Tai Chi* had evolved into a competitive sport, even vying for Olympic medals. These were only a few of the Non-Western strands within the new psychology.

At the same time, empirical research on individual and collective mental behavior continued, and it borrowed much from traditional Western quantitative methodology.

By the late 25th century, there were two competing schools of thought in this area. There was much that was agreed upon. For example, the use of chemicals (“Psychotropic” drugs) to modify behavior was abandoned. Textbooks now derided those practices and placed them in the same category of medieval barbarism as lobotomy and electro shocks.

There was also general agreement that Individual Psychology, as practiced in the 20th and 21st centuries, had been a grave error. It was understood by all professionals and educated people that mental and emotional processes were group properties. Thus, all forms of “therapy,” “behavior modification,” all approaches to mental and emotional problems were group-derived and based on concepts of *Social Contagion*. It was agreed that no knowledge could be purely subjective, and that all knowledge - including self-knowledge and knowledge of the external world - was *inter-subjective*. However, the two major schools of thought differed about their *goals*: One approach emphasized the primacy of *introspection* and *Moksha*. Its practitioners at Mind Schools and Group Centers conducted Empathetic Processes.



The other school focused *outward*: While accepting the importance of self-knowledge, these scholars and practitioners argued that scientific inter-subjective knowledge must improve man's material circumstances as well his spiritual elevation.

It was from this latter school that a great breakthrough invention occurred in the early 26th century: **Dr. Xiao Lan Zhan** discovered, while conducting experiments at the **Guangzhou Southern Institute of Inter-subjectivity**, a method for direct inter-subjective transference. At first, this was only achieved in dyadic relationships, but the scope of flow was gradually enlarged to larger groups. The process represented a quantum leap from empathy therapy, which had been practiced for over a century. During the next decades, inter-subjective penetration and experience were improved through the use of electro-chemical and mechanical technologies. In time, these technologies made highly precise transference possible, and even more important, *lasting*, enabling fundamental character change.

At first, Dr. Zhan's discoveries were resisted, particularly overseas. Hispaniolans derided the new Asian practices as witchcraft-like attempts at telepathy. However, faced with the irrefutable successes of the new psychic technologies, an increasing number of Institutes in a growing number of jurisdictions all over the world embraced what became known as the science of ***Inter-subjective Transference***.

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The only area in which East Asia did not lead the world was that of leisure, sports and recreation. Early in the 22nd century, the worldwide Olympic Games were replaced by three competing regional contests (See last section of the present chapter). The dominant international quadrennial sports event in East Asia was called the *International Athletic Competition*. This was dominated by the members of ACPA, although it also attracted many other members of the Kyoto World Council. This event was a poor replica of the defunct Olympic Games.

The impoverished world could no longer afford an itinerant quadrennial sports fest, as it had done until the 21st century. No countries or cities volunteered to host the event any longer. Therefore, the International Athletic Competition always took place in Beijing. Nor was it unheard for the games to be skipped on occasion, depending on the state of the economy, or international relations.

Once the three regional sports events replaced the Olympics, the different regions were free to introduced their own favorite sports. For example, Tai Chi became one of the International Athletic Competition's new events.

All in all, China and the rest of East Asia were in relatively good shape, especially in comparison with living conditions in Hispaniola. Asian science achieved far more, and the reason for this was the superiority of Asian culture and communication at this time. As we already saw, Mandarin underwent a major transformation from the 21st to the 23rd century. It became more abstract, both in written and spoken form. At the same time, Hispaniola's dominant language, Spanglish, moved in precisely the opposite direction, becoming increasingly iconic. This was a recipe for Hispaniolan failure in science, technology, education and communication, and the reason for the opposite trend in Asia, namely greater progress on those fronts.

C. Foreign Policy: East Asia's great success during the first half of the third millennium lay in its ability to act in its own self-interest. A good example of this was provided earlier in the present chapter: When in 2388 Hispaniola went into battle in response to the piracy attack upon it and the Islamic Republics' complicity in that attack, China joined the rest of the world in its condemnation of the attack, paying lip service to its alleged outrage, but it limited itself to "moral support," and it did not raise a finger to assist Hispaniola.

As we saw, ACPA spearheaded the creation, in 2218, of the Kyoto World Council. This represented a schism within the United Nations, which had become far too dominated by Eurabia and its Middle Eastern allies. Henceforth, the world had two competing and overlapping International Organizations..

There were a few countries which remained members of the old UN only, adamantly hostile to the new Kyoto organization. For example some of the more extreme Middle Eastern regimes, such as Pakistan. Then there were those which belonged exclusively to the Kyoto World Council. These were the governments with the most serious grievances against discriminatory treatment by the UN. For example Korea. However, a majority of nations ended up belonging to both organizations. This included all of the members of the UN Security Council. No country that expected to play an important role on the world stage, and wished to safeguard its economic and political interests, could afford not to belong to either of the two

parallel world bodies.

One international issue which had plagued the region ever since the 20th century was Korea. Possessing nuclear weapons, the northern half of the peninsula was able to safeguard its independence and to blackmail its neighbors into subsidizing its bankrupt economy. However, its decay was unstoppable. By the middle of the 22nd century, its population declined to 8 million, due to radioactivity, disease, starvation and emigration. Millions fled to South Korea, China and Japan. The final collapse came between 2240 and 2250. With its population down to under a million, a government unable to perform its most basic functions and a military apparatus that existed on paper only, the country became a wasteland and a failed state. Its institutions atrophied to practical non-existence. During that decade, South Koreans, Chinese and Japanese individuals began to enter North Korea without consequences. Border posts had long been abandoned, most municipalities were ghost towns, authorities were nowhere to be seen.

The wrap-up was swift: It was decided at an ACPA meeting that North Korea would henceforth be a developmental province of the Republic of Korea, under Seoul's jurisdiction. It would take Korea and ACPA seventy five years and fifty trillion Yuans to decontaminate, repopulate and re-develop the Northern Province. By the middle of the 24th century, the epicenter of the province's recovery was in Hamgyong-Bukto. There, a new coastal city was created on the shores of the Sea of Japan. The city was named *Joseon*, after the great dynasty which successfully governed Korea for over 500 years during the second millennium. Some of the largest Chinese corporations were allowed a free reign in the new port city of Joseon. It developed rapidly, as it served a vast hinterland comprising not only much of Korea, but also parts of Manchuria and Siberia. This benefitted northern Korea, whose standard of living by the beginning of the 25th century was approaching that of the rest of the country.

4.The Rest of Asia: India remained the world's most populous country. By the 23rd century, its population was barely growing any more, but it stayed ahead of all other countries, as much of the rest of the world was either losing population, or stagnating. Of the one billion Indians, eight hundred million continued to live in abject poverty. Death by starvation was not uncommon, especially in such mega-cities of Mumbai, Calcutta and Delhi. At the same time, India had several hundred of the world's richest corporate billionaires. These lived in armed compounds sometimes the size of small countries, ruling over them like mediaeval lords over their fiefdoms. The hold of the central government over these fiefdoms was weak. Only for international trade and international policy did the local lords go through the Delhi government. The sources of the fiefdoms' income varied. Most of them manufactured a product for export, relying on the central government to sell their products to China and the rest of ACPA, to the Middle Eastern Republics, Eurabia and Hispaniola. The products ranged from electronics to public and private transportation vehicles, weapons, nuclear components, gardening tools and clothing. In return, India imported vast amounts of drugs from its trading partners, especially from Hispaniola.

All in all, India remained surprisingly stable. Its international relations were good with Hispaniola and with the ACPA, but less so with Eurabia and the Islamic Republics.

The other major South- and Southeast-Asian countries are Indosenia (a slightly altered form of the former Indonesia) and Pakistan. Both of these very populous states are Muslim. Thus, they were both treated as protectorates of the more powerful parts of the Muslim world,

namely Eurabia and the Islamic Republics.

A major difference between Indosenia and Pakistan was that the former was a more less functioning state, although relatively corrupt and underdeveloped, whereas Pakistan was basically a failed state. It was, on the one hand, buttressed by the radical and martial Islamic Republic of Iran, which was the lifeline preventing the Taliban-governed and nuclear-armed country to lapse into total chaos. On the other hand, India made sure that Pakistan never developed the ability to once again become a major threat to the region and to the world, by controlling its borders, its trade, and its naval and aerial activities. This status quo was interrupted by occasional skirmishes, but there was never a recurrence of the devastating nuclear war which took place in the late 21st century.

The tragedy of poor and underdeveloped countries in possession of nuclear technology was a different one: There were several nuclear disasters on both sides of the India-Pakistan border during the era under discussion: In 2375 and again nineteen years later, Indian nuclear power plants suffered devastating meltdowns which caused lasting environmental destruction, and thousands of deaths.

In Pakistan, it was the country's nuclear weapons which caused several catastrophic events: There were seven "*broken arrows*" incidents during the 23rd century, i.e. nuclear bombs simply disappearing. Finally, some of these lost bombs began to detonate, accidentally. These accidents began to occur during the early 24th century. By then, no one in Pakistan (or outside Pakistan) had any idea of the size and the whereabouts of the country's nuclear arsenal. Some speculated that the accidental detonations were caused by the wear and tear and the decay of the safety locks and other security components of the bombs, some of which had been stored God knows under what primitive conditions for several centuries.

5. Africa: The only part of the world whose development during the first and the second halves of the third millennium did not differ significantly was Africa. That is, the Continent lagged far behind all other parts of the world during both halves of the millennium.

As I already indicated, from the 22nd through the 25th centuries, the Dark Continent continued to suffer from ceaseless exploitation at the hands of Eurabia and the two Islamic Powers. Those regimes initially intervened in African affairs under the guise of assistance.

However, this soon turned into the crassest form of exploitation, namely the exploitation of Africa's most basic resource - the muscle power and the bodies of its people, in the form of slavery (See above, the Labor Transfer policies).

European and Middle Eastern businesses clamored for cheap labor, of which there was very little domestically. African Labor Transfer policies were the result.

The most brutal period of forced African population transfer occurred during the 22nd and 23rd centuries, when the Continent was still overpopulated, starving and unemployed, thus leading its own people to often volunteer for deportation to the IRI, the UIA and to Eurabia..

In time Eurabia began to dislodge the IRI and the UIA as the major foreign presence in Africa, and as the major importer of African labor. As this happened, the population pressure in Africa declined. During the 24th and 25th centuries, Africa exported fewer people, and those whom it exported went largely to Eurabia. There, they were more likely to eventually gain their human rights than those who were carted off to the Islamic Republics in the past, where the laws would ensnarl them *and* their descendants into virtual permanent bondage.

By the early 2600s, the Continent was so depopulated that even Eurabia ceased to import Africans. From then on, the Continent was increasingly left alone by the rest of the world. By then, most of Africa had reverted to a rural and tribal environment. Except for the Northern coastal area, much of which remained a province of the United Islamic Alliance, most of the Continent's cities had collapsed. Cities whose metropolitan populations had numbered over ten million during the 21st century either dwindled to the size of small villages, or disappeared entirely.

Among the Northern Arabic cities, Cairo remained one of the world's great metropolises, still comprising over 9 million people, nearly its previous population four hundred years earlier. Other Islamic cities of substance in Africa included Algiers and Tripoli, each with a population of over half a million, and Casablanca, with a quarter million people. In the Southern Hemisphere, Johannesburg was the only agglomeration still deserving the name "city," with an estimated population of one hundred thousand.

Between the 20th parallel North and the 20th parallel South, urban life in Africa became a thing of the past. In the vastly expanded Sahel (see Map, Chapter Four), not only did cities disappear altogether, but organized human life also practically vanished. Humans could still be observed occasionally, in the form of roving bands of nomads attempting to survive either by hunting down the scarce (and often mutant) animal life that remained in the desert-like environment, or by preying upon each other and upon anyone passing through the region.

Further South, some cities such as Lagos and Dakar survived, thanks to their coastal positions, but only as small villages with populations of 20 or 25 thousand, i.e. one four-hundredth of their peak. Inland cities such as Kinshasa and Addis Ababa were ghost towns, retaken by the jungle or by the desert. The Continent's major roads and airports reverted to the jungle, overgrown with lush tropical vegetation, or buried deeply in sand and earth, reminiscent of the ruins left behind by earlier civilizations such as the Khmer and the Mayans, while lacking the splendor of Angkor Wat and Chichen Itza. Most Africans were now hunters, gatherers and gardeners once again, while farming continued to be practiced by a few, for example those living in the fertile highlands of Ruanda and Burundi.

A positive consequence of Africa's depopulation and de-industrialization was its reforestation. Nature made a come-back, as did some big game that had been on the verge of extinction. For some species, the turn-about arrived too late, for example the rhino.

On the other hand, elephants were once again plentiful, as Africans developed a symbiotic relationship with the great beasts, using them in farming and in transportation, and breeding them as food. Elephant meat, which tastes a bit like venison, became a major source of protein for millions of Africans.

Africa's reforestation helped the rest of world. As levels of photosynthesis increased, they helped to restore the global atmosphere to some degree. It also helped to stabilize global warming and global drying. The greatest temperature surge had occurred during the 21st and the early 22nd centuries. By 2150, average world temperature was 3.6 degrees Celsius higher than it had been two centuries earlier, i.e. six and a half degrees Fahrenheit. After that, although world temperatures did not recede, at least they stabilized. This was partially the beneficial effect of the reforestation of parts of Africa (as well as parts of Hispaniola).

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During the first half of the third millennium, there was a renewed reliance in the world on nuclear power, often dirty nuclear power. Eurabia had the largest number of nuclear plants, followed by China and the other members of ACPA. One of Africa's many misfortunes was that it served the rest of the world as the dumping ground for nuclear waste. For example, France and Eurabia's other provinces dumped their nuclear waste near the Hoggar mountains in the Southern Sahara, a practice which went on for five centuries.

This had drastic consequences for Africa's fauna and flora. There arose a variety of mutant species across the continent. For example, the vast region stretching from the former countries of Senegal to Ethiopia was plagued by a new mutant, three-eyed amphibian. In street language, the beasts were referred to as *Talatayhaia's*, a bastardized Arabic term, while its official name was *triphthalon*. The animal could range in size from 5 centimeters to over half a meter. After a wet season, its numbers could grow to billions, devouring the vegetation and the gardens until nothing was left for other species, including humans.

There was also, through mutations, a vast increase in the number of *autogamous* organisms, i.e. hermaphroditic plants and animals which reproduce themselves asexually, i.e. without a partner of the opposite sex. Most of the new autogamous organisms were plants, insects or micro-organisms. They were very prolific and they preyed on humans as well as other large mammals.

The Triophthalon - Mutant Plague of Africa in the 24th and 25th centuries



Finally, some humans also mutated. There arose several tribes, for example some of the Southern Saharan Berbers' descendants, that developed widespread albinism. Tragically, 45% of this population was either born blind, or became so within the first three years of life. A very few of these individuals survived due to their reliance on a new and highly developed sixth sense which enabled them to identify food sources as well as approaching threats. However, by and large they were preyed upon even more aggressively than others, and most did not survive beyond their first few years. For Africa as a whole, life expectancy in the 25th century declined to 37 years, i.e. the same as it had been in Ancient Egypt five thousand years earlier.

In sum, African public health deteriorated to a very primitive level, and a new ecosystem emerged. This system, in part the result of nuclear contamination, while seemingly abhorrent, was nevertheless in balance, and it was not a threat to the rest of the planet.

African Mutant Albinism; 26th century



6. The Global Scene:

A. Politics and Culture: For the world as a whole, then, the first half of the third millennium was reminiscent of the era following the fall of the West Roman Empire. That is: (1) the previously most advanced region regressed to more primitive and chaotic conditions, (2) the world as a whole ceased to progress, and yet (3) some regions which had previously been peripheral, now came to the fore and maintained a modicum of civilization. In this analogy, North America represents ancient Rome, while Eurabia and ACPA represent the Byzantine Empire and the Moorish Caliphate.

Depending on the region, then, there was regression at worst, and stagnation at best. The world's overall standard of living declined. Many regions of the world became more *fragmented*. This was notably the case in Hispaniola, which nominally remained a loose confederacy, but in fact regressed to a quasi-feudal region. In Africa, chaos and strife were far more virulent. On the other hand, China, Eurabia and other large states remained relatively strong.

At the *political* level, any budding movement towards world federalism that might have existed in the latter 20th and early 21st centuries totally evaporated. Similarly, the *economic* integration of the world into a global socio-capitalist system also became a vanishing prospect. Corporate business survived, but at the regional rather than multinational level.

Relationships between the different parts of the world were once again based on regional and national interests, negotiations, conflicts, treaties, wars, alliances, and trade - as they had been during most of history. Many specific events have already been discussed in the preceding sections. Here, I limit myself to one illustration of world relationships during this era - *athletics*:

Eurabia, the Middle East, and about 57% of the world's countries continued to center

their international relations around the old United Nations in Geneva. At the same time, the old Olympic Games were transformed to a *stationary* quadrennial event, also in Geneva. The world's reduced resources made this a wise decision. This international athletic tournament was re-named the **World Games**. Although it was the world's most elaborate sports event, it was no more able to attract a near-universal participation than were the United Nations.

Hispaniola, for one, held its own periodic international meet. This was a more modest affair, attracting fifty to sixty countries. The same nationalistic pride and resentment which caused the break-up of the UN and the creation of the competing Kyoto World Council, were also responsible for the creation of alternative international sports fests. Indeed, there was a third major such event, namely the quadrennial **International Athletic Competition**, this one dominated by the members of ACPA. The IAC attracted more countries than did the Hispaniolan games, but not as many as the World Games.

Each of the three sports jubilees was held at a permanent venue. The impoverished world could no longer afford itinerant quadrennial sports spectacles, as it did until the 21st century. No countries or cities volunteered to host the event any longer. Therefore, the World Games were always held in Geneva, the Hispaniolan event was held - if at all - in Mexico City, and the International Athletic Competition took place in Beijing. Nor was it unheard of for one, two or all three of the events to be skipped on occasion, depending on the state of the economy, or international relations. While the World Games were rarely skipped, Hispaniolans were lucky to hold one event per decade.

When the games did occur, it was not uncommon for some countries to participate in more than just one of the three events.

The disintegration of one worldwide Olympic event was the result of disagreement about which sports to include or not. Different regions of the world possessed different strengths.

A few sports, such as soccer and basketball, were practically universal, but many other ones were not. For example, many of Hispaniola's strengths such as football and baseball were voted out of the Olympics, as an overwhelming majority of countries did not practice those sports. Once the three regional sports events replaced the Olympics, the different regions were free to introduce their own favorite specialties.

One of the World Games' major events was helium balloon racing combined with laser shooting. This even was introduced in the late 22nd century, once lighter-than-traffic was firmly established as a form of transportation, a recreational pastime, and a skill. Competing teams used skillful laser shooting at each other's balloons in such a manner as to deflate their opponents' balloons and thereby reduce their speed. Complex defensive equipment and maneuvers made this one of the most popular spectacles. It required not only great skill from the athletes who practiced it, but also courage. As one of the most dangerous sports, it resulted in the death of nearly 10% of its practitioners.

Eurabia and the Middle East practiced various other new sports as well, many of which were suited to the new ecological reality. For example, there was a new category of "Sablian sports," (literally meaning "sand sports"), including dune skiing. Some of the champions in this area came from such Eurabian provinces as Austria and Switzerland. These were groups which

transferred their traditional athletic skills (e.g. downhill skiing) to the new environmental realities. The greatest Sablian athletes were mostly from the UIA and from the IRI. For example, 25th century sand champions included the great Raghid Dossari and the beautiful Lubna Madani who dominated the sport for several decades.

Winter Olympic games did not take place after the 22nd century, as it had become nearly impossible to find venues for winter sports. Until the middle of that century, a few affluent communities (E.g. Andorra, Dubai, Norway) hosted and sponsored an occasional winter sports festival - at ruinous cost to themselves. However, this increasingly required artificial snow and ice, often inside fantastically expensive super domes. This was more and more the case even at higher latitudes. By the 23rd century, natural snow and ice had become rare occurrences even in the Alps and elsewhere in Europe. There remained a few artificial skate tracks in Scandinavia and in Flandria, and one artificial snow slope coming down the Swiss side of the Matterhorn.

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The International Athletic Competition, primarily promoted by China and other Far Eastern countries, also pushed its own *fortes*. For example, Tai Chi became one of the IAC's major events. This sport had always included a variety of strands. The International Tai Chi competition became dominated by a variety which evolved out of the venerable **Chen** tradition, stressing defense and gravity. In the middle of the 23rd century, this brand of Tai Chi became a two-man *team* sport, and fifty years later all teams became one-man-one-woman doubles. The man's responsibility was offense - capture the opponents' center of gravity. The female was in charge of defense - preventing that from happening. For most of the 24th century, China enjoyed a virtual hegemony in this event, capturing Gold every four years without fail. Examples of Chinese champions of that era include **Grand Doctors Sun Wei and Fu Lin**, who captured the gold medal nine consecutive times, until aged 56 and 53.

B. The Environment and Population: As we already saw, there was during the first half of the third millennium a decline in the world's standard of living, particularly in the Dark Continent.

Elsewhere, conditions did not always deteriorate a great deal, although they did not improve either. India continued to muddle through as a powerful, functional and integrated state whose population accepted poverty as the normal condition. Eurabia and ACPA developed and used a variety of new technologies(see next section), and could, in that regard, be seen as representing progress.

ACPA's space program in the 24th century was more advanced than anything the world had known 250 years earlier. However, the planetary environment had been so deeply and irreversibly damaged prior to the 22nd century that no country could any longer enjoy the same quality of life as had been enjoyed by the Western World in the 21st century. ACPA and Eurabia could only be said to be "ahead" in the sense that they coped with the new ecological reality the best. There, alternative technologies and cultural habits (e.g. vegetarianism) thrived,

technologies and habits which were not only developed in order to *spare* the environment, but also because they were the most *suited to* the new environment (see next section). Table Six gives an estimate of the comparative standard of living in a dozen select parts of the world ca. 2500 AD.

Table Six: Standard of Living in Selected Parts of the World, late 25th Century

Area and Countries	Annual per capita Income, in 22 nd Century <i>Solar</i> Equivalents
1. ACPA: China, Japan and Korea	239,000
2. Western and Northern Eurabia (Including Scandinavia, Germania and Flandria)	191,000
3. Greenland	189,000
4. United Islamic Alliance (including Lybia and Arabia)	137,000
5. Southeast Asia: including Indosinia and Thaima	97,000
6. French and Atlantic Hispaniola (including former Canada)	84,000
7. Islamic Republic of Iran	81,000
8. India	53,000
9. Hispanic Hispaniola (including Mexico and Brazilia)	41,000
10. Eastern Eurabia (including Russia)	33,000
11. Southern Africa	21,000
12. Pakistan and other failed states	3,100
13. Central Africa	400

Although global warming was halted, it was not reversed. The world's temperature remained permanently higher than it had been a few hundred years earlier -by an average of almost seven degrees Fahrenheit . Ocean levels remained three feet higher. And the most serious challenge to humanity was not global warming, but global *drying*. The water tables were permanently depleted, from the Southwestern former United States to Mongolia and the African Sahel. The flow of great rivers was permanently reduced, from the Hispaniola's Colorado to China's Yang Tse. Some major rivers vanished, for example Australia's Murray-Darling. Alaskan, Scandinavian and Swiss snow packs and glaciers vanished or shrank.

In many parts of the world, the ecosystem, the flora and the fauna adapted to the new conditions. There was a proliferation of vegetation such as cacti and sagebrush, and of both old and newly evolved or mutated reptiles, not just in Africa. At the same time, many of the large mammals became extinct, for example the rhinoceros, the giraffe, the hippopotamus, most felines and other exclusively carnivorous species.

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The world's population peaked at 12 billion at the turn of the 23rd century, then began to decline slowly, reaching 10 billion two hundred years later and declining to 7 billion by 2600 AD. One reason that world population did not go down more precipitously was that global warming not only rendered certain areas uninhabitable but, conversely, also opened up new virgin territories for settlement. For example Siberia, Greenland and Antarctica. By the 25th century, Antarctica's population grew to four million, most ly as a result of immigration from Hispaniola. Siberia continued to attract millions of Chinese settlers.

As to Greenland, its 25th century population exceeded 37 million. Two categories of immigrants had been streaming into Greenland for the past three hundred and fifty years: Hispaniolans and Eurabians. This produced a multilingual society with a certain amount of cultural strife. Most of the Hispaniolan immigrants spoke Spanglish, while most of the Eurabians spoke the Franco-Arabic language which became dominant in Europe. An interesting twist to this was that Greenland also received a significant number of immigrants from French Hispaniola. This group's allegiance was to Greenland's Eurabian faction, even though it consisted of Hispaniolan immigrants. In addition, Inuit language and culture survived and thrived among the growing segment of Greenland's native population.

Greenland's cultural tensions rarely led to violence. Conflicts and confrontations were generally solved through a peaceful and democratic process. No doubt this was due to the fact that Greenland was one of the world's most prosperous states. Prosperous countries may be culturally divided, but they rarely lapse into murderous civil wars.

Greenland also became one of the most progressive countries in the world. Its economy and its cities were entirely based on green technology. The country was careful to avoid military and political entanglements with either its close neighbor, Hispaniola, or its "big brother" Eurabia. Its capital city *Greenlandia*, with a population of 375,000, was the model green city visited by countless eco-tourists and experts every year, hoping to learn from and to replicate the example.

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Greenlandia, the Green Capital of Greenlandia



Another multilingual society which did not solve its strife as nicely as Greenland was Belgium: In the 23rd century, the Walloons and the Flemish finally decided to get a divorce, so to speak. They had been bickering for centuries. Wallonia became independent, and Flanders became a semi-autonomous province of the Netherlands, named Flandria. Brussels remained the capital of Eurabia, as an independent entity comparable to the Vatican and Jerusalem.

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From the 22nd century onward, the people of the world became increasingly less *mobile*. As the age of globalization ended, international air travel, tourism and migration declined. To be sure, *some* migration continued, including the one just discussed in Greenland, the forced “labor transfers” out of Africa, and the continued movement of Chinese people into Siberia. But, many of the world’s people assumed a more sedentary life than their predecessors. This was clearly the case in Hispaniola, a continent where most people were “homesteaders” practicing horticulture.

As to Eurabia, the Middle East and Asia, there, the governments had a firm hand in

restricting population movements. Thus, what little migration remained was strictly controlled by the authorities. The population explosion of the 21st century had been replaced by a population scarcity. Therefore in many countries the authorities opposed emigration. As to travel, either for business or pleasure, it too became more problematic. Only the rich could afford it, and the world became a much more dangerous place for everyone.

C. Technology and Transportation: During the 22nd century, the growing water scarcity led to de-salinization efforts. However, this turned out to be terribly costly. By the 23rd century, most countries abandoned their de-salinization programs. Only some affluent members of the UIA continued such efforts, for example the Gulf states, Arabia and Kuwait.

Which source of energy was used the most in a given region depended on local geographic and economic conditions. For example, China and Northern Hispaniola relied a great deal on coal, as their supplies were abundant. Wind power was relatively highly developed in the Northwestern parts of Eurabia, in Greenland and in several other independent European countries, for example Scandinavia. Iceland derived most of its power from thermal sources. Solar power was widely used in every part of the world below the 50th parallel, and also to some extent above that latitude, weather permitting. Global warming had increased temperatures in all parts of the world except in Western Eurabia, which no longer benefitted from the Gulf Stream's warming effect. Eurabia therefore relied a great deal on nuclear power.

Other areas of the world which relied a great deal on nuclear energy included Hispaniola, India, the members of ACPA, Russia and various other countries around the world. The vast majority of nuclear plants were small and dirty. In most countries they were publically owned, but in Hispaniola they were owned by private companies. Much of the world felt safer in scaling down the size of its nuclear plants to 100 and 150 Megawatt units. By the beginning of the 25th century, there were over two thousand such "micro-units" around the world. As a result, "malfunctions" were frequent, but no *single* accident caused enormous amounts of death and devastation, as Chernobyl had done in 1986. On the other hand, radioactive contamination spread to every part of the globe. Leukemia and other forms of cancer were pandemic.

Electronic technology was stagnant. Under the leadership of China and its ACPA allies, the world succeeded in maintaining a fleet of about fifteen hundred satellites, which kept the worldwide communication system at least operable, even though it was fragmented in several competing etherwebs.

Unlike ACPA's and Eurabia's satellites and space station, those of Hispaniola had been privately owned, and most of the corporations which ran them went bankrupt. The Mexico City government was in no position to pick up the cost of taking over, repairing and maintaining the hardware. By the middle of the 22nd century, all of Hispaniola's space hardware had decayed and disappeared. Henceforth, the country "outsourced" its space services to ACPA.

Heavier-than-air transportation survived, although on a far reduced scale. 80% of all air traffic was of the lighter-than-air sort, i.e. consisting of helium balloons and other dirigibles. Private balloons were available to the very rich, especially in Eurabia and in the UIA. However, private transportation vehicles were rare. In Eurabia, ACPA, India, the IRI and many other jurisdictions, this was based on laws and on governmental policies discouraging or even forbidding private transport.

In Hispaniola, Africa, Indosenia and elsewhere, private transportation was available to the corporations and to the very rich. The transportation system which developed nearly universally was a hybrid: on both sides of the Atlantic, thousands of small taxi-like companies took over the entire business, taking you from A to B for pay, either by air or surface, either slowly by balloon or by airplane, either short-distance or to another country.

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After the middle of the 22nd century and for about one century, medicine, public health and life expectancy deteriorated. By the late 2200s, average worldwide life expectancy was three or four years below its peak of 75 years, reached in the middle of the 21st century. After that, it stabilized for the following two centuries.

Medicine's deterioration was both in its science and in its organization. Resources for research, for universal public health coverage, and for treatment, declined, as they declined for all services. There was a great increase in medical inequality. Hispaniola and many other societies relied on the services of private clinics, which meant that the wealthy enjoyed far better medical treatment than the poor, and therefore enjoyed better health and longer life-expectancy. Laws mandating universal health insurance were widely flouted.

The countries of ACPA, Eurabia, the UIA, the IRI, India and some others enjoyed public health care systems. There, the distribution of medicine was more equitable, although not of a higher quality.

Socialized Medicine did not necessarily make for healthier and longer-living populations. The great discrepancies between the health and life expectancies of different countries were often the result of living conditions, standard of living, the quality of the natural environment, dietary and health habits, and culture. Africa's health remained abominable. Its life expectancy declined to a low of 39 years by the 26th century. At the other end of the spectrum were some members of ACPA, where medical practices, diet, health habits and a relatively high standard of living made for the planet's healthiest population.

The Hispaniolan and Eurabian Confederacies did not do too badly. While the widespread use of dirty nuclear power harmed public health a great deal, those societies had otherwise pulled back from the excesses of industrialism and environmental plunder. With a reduced and stagnant population, a healthier natural environment, and much less mobility, epidemics and contagion declined and the immune systems of populations recovered somewhat.

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As far as the field of *mental* health is concerned, the world was similarly divided: On the one hand, there was, in many areas, a vastly increased reliance on mind-altering chemical substances. Marijuana was universally legal, as alcohol had been for millennia. Various opiates, coca-derived substances and mushroom- and cactus-derived hallucinogens were also legal in most jurisdictions, at least as prescription drugs. Chemical companies had created a myriad new compounds blending traditional psycho-tropic medications with the aforementioned formerly illegal narcotics.

For example, Merck developed and marketed the single most popular psychotropic drug ever, *Mescapromine*. This was a compound of a peyote-derivative and a MAO Inhibitor. It combined anti-depressant properties with mind-altering and even personality-altering

capabilities. In the late 24th century, an estimated 1 billion people were taking this drug, medically, recreationally, as dietary supplements and as aphrodisiacs.

The focus of a majority of new drug treatments was, first of all, on analgesic desensitization and, secondarily, on anti-depressant stimulation. A third approach consisted of mind-altering consciousness manipulation. The net outcome in many parts of the world was a reduced level of human energy output, including aggression, somewhat the way Indian society had been stereotyped in the past.

We already saw that such substances were enormously important parts of international trade, national economies, and governments' budgets by way of taxation. In Hispaniola, in the UIA and in several other areas, the psychological use of drugs was a private matter, something between the patient/client and whatever private clinic he could afford to frequent.

In Eurabia, India and even more so in the IRI, governments put pressure on the citizenry to consume some mind-altering substances. For example, entire classes of individuals were mandated to take certain drugs on a daily basis - for example ex-felons, government employees, the military, the police, teachers, etc. Governments attempted to set up elaborate testing systems to force compliance. However, by the 25th century, those systems had broken down. The intake of drugs had become a random and chaotic affair, even in the countries attempting to regulate it.

However, not everywhere did the "mind sciences" - as they became known - move in the direction of drugs. In the nations of ACPA, things evolved the opposite way. There, scientists prevailed on the governments and on the societies to wean themselves of substance use to achieve behavioral change.

Instead, the field formerly known as "psychology" focused increasingly on the *group mind* phenomenon. During the 23rd century, Chinese scientists made important discoveries proving that mental phenomena - and therefore behavior - are group-based. Great progress was made in proving the *inter-subjective* nature of thought and consciousness. Chinese Mind Science was beginning to offer the - still admittedly distant - promise of *telepathy* and *group thought*.

By the 26th century, the mental and behavioral practices in most ACPAn provinces were always embedded in groups, never in individuals, and drugs were rarely part of the equation. We shall see in the next chapter that in years to come, the rest of the world would have no alternative but to come on board, as the scientific evidence supporting Chinese mind science was (1) irrefutable and (2) clearly responsible for that society's superiority.

7. 2600-3000: HISPANIOLA

Although the first half of the third millennium was an era of great decline for Hispaniola, the stirrings of a rebirth were already noticeable during the latter part of the 25th century. The pioneering leadership of great minds such as Dr. Adriana Cruz and her daughter Isabel set in motion an intellectual revolution which eventually put an end to the dominance of Chandrism, of the *Interweb Habilitation Verification Method. (IHVM)* and of all the other obstacles to progress under which Hispaniolan society had chafed for several centuries. This was the **Great Awakening**, which was in full swing by the middle of the 26th century. By the beginning of the 27th century, scholars such as Yo-jung Chen and others of the **New School** modernized science, psycho-cosmology and the entire educational system. This enabled Hispaniola to retake the leadership of the world scientifically, culturally, politically and economically.

Scholars have long wondered what enabled Hispaniola, after centuries of somnolence, to re-establish the benign world supremacy which had been North America's role during the 20th and 21st centuries?

The answer to this lies in the contrast between Hispaniola's fundamental character and that of most of the rest of the world. In one word - **freedom**. Regardless of the vicissitudes of world history, freedom, democracy and the emphasis on individual creativity always remained part of the Hispaniolan people's very fiber. After centuries of decay and comparative retrogression vis-a-vis other continents, the Western Hemisphere remained wedded to individual innovation and a rejection of constraints upon thought and lifestyle. Other societies ranged from dictatorial to benign welfare states. But even the latter peoples - for example many members of ACPA and most of the Northwestern members of Eurabia - felt more comfortable relying on a benevolent Big Brother for the satisfaction of their needs. Thus, it was only a matter of time before Hispaniolan universities, research institutions, science and culture resumed their role as the world's leaders in innovation, creativity and the forward march of knowledge and values.

1. The Economy and the Energy Supply: Before the economy and technology could improve, the central Hispaniolan government in Mexico City had to re-establish its control over the vast, feudalized Western Hemisphere. During much of the first half of the millennium, the federal government was a government in name only. The creation of the Hispaniolan federation at the beginning of the 23rd century (See Chapter Five) only meant that the Western Hemisphere generally presented a united front to outsiders. Internally, the Continent was divided and chaotic. Local lords ran fiefdoms which ranged in size from a few thousand square kilometers to the size of former American states.

Great and strong leaders such as President Kristofer Apocatequil Kolombos (2498-2567; see following section) gradually managed to put an end to this. It took the central government more than a century to dismantle or at least to weaken the innumerable barriers to internal travel, trade and mobility within Hispaniola. The Continent was plagued by hundreds of "tolls" which functioned merely as extortion points for all people in transit. Not only did the local thugs in charge in any given region confiscate a heavy portion of all travelers' possessions and merchandise, but they also kidnaped some of the travelers themselves, placing them in bondage

for the rest of their lives. Such body snatchings could only be averted by those who had the means for armed resistance, and those who could bribe themselves out of the situation. Only powerful companies, who traveled with strong armed retinues, could move about safely and transport goods and people.

But in time, the federal government whittled away at the local chiefs' extortionist power. Increasingly during the 25th century, private transport caravans traveled under the protection of federal security forces. Sometimes this led to violent conflict.

For example, in 2456, a convoy of the *Hispaniolan Leisure Cartel* was carrying nine hundred tons of marijuana from Spanish America to Portobelo Harbor, Panama, from where most narcotics deliveries to Eurabia and to the Middle East were shipped. At that time, a vast region adjacent to Panama, consisting of parts of the former states of Columbia and Venezuela, was ruled by a warlord named *Francisco Kimi*. While Kimi did not control the entire Panamanian Isthmus, he did often move north to pillage the area and to attempt to establish permanent control over it. Upon hearing of the large shipment coming south, he moved several thousand men to the North-Hispaniolan side of the Panama Canal to intercept the convoy and to extort a large part of its cargo before allowing it to pass. The Canal was no longer in use, being now nothing but a gigantic ditch overgrown with tropical vegetation, with one single bridge spanning it, and connecting the two halves of the Western Hemisphere.

Kimi thought that he had the *Hispaniolan Leisure Cartel* over a barrel. However, to his surprise, the convoy was accompanied by a strong federal force. A major battle ensued. The Federales and the *Leisure Cartel* mercenaries were highly disciplined and well-trained fighters, skilled in hand-to-hand combat as well as ACPAn satellite-assisted aerial assault. They secured the bridge, and then proceeded to make mincemeat of Kimi's troops. The warlord lost several thousand men - the bulk of his forces. He returned home with a few bedraggled men and was soon thereafter assassinated.

This was one of several examples of the Mexico City government not only succeeding in protecting commerce and public safety, but also in gradually (re-)establishing its authority over the nation. Indeed, after Kimi's assassination, the federal government took over his fiefdom, to the great appreciation of the local population. In two years, the area was pacified, whereupon a group of investors calling themselves the *Grupo Ag. Desarrollo (GAD)* took over its development and management.

As the power of local chiefs and gangsters waned, Hispaniolan order and prosperity grew. However, there was another yoke which the Continent had to throw off: that of economic exploitation at the hands of the great foreign powers - first and foremost Eurabia and ACPA. For several centuries, Hispaniola's relationship with those powers was semi-colonial. The Western Hemisphere was a source of raw materials, agricultural products such as marijuana, heavy payments necessitated by its never-ending indebtedness, and even manpower (See chapter Five). At the same time, the Confederacy was technologically dependent on ACPA, which provided the software and hardware for Hispaniola's electronic communication needs, and the science for its medical needs, all of which cost the country dearly.

But this, too, came to an end. As Hispaniolans grew more prosperous and more powerful, they improved their international bargaining position. During the 26th and 27th centuries, their government was able to negotiate a number of treaties greatly alleviating the

inequities forced upon them by the other great powers.

Hispaniolans had long protested (often violently) their oppression and exploitation by foreigners - for example the *International Labor Agreement* (see Chapter Five). Assassinations of Chinese, Eurabian and other foreign administrators were common.

By the beginning of the 26th century, the protests became better organized. A group calling itself *Tiera Y Liberasion* sabotaged much of the foreigners' business in Hispaniola. As the cost of such business grew, the foreign authorities' responses varied: The Eurabians threatened with punitive measures, holding the Mexico City government responsible. But of course those threats were idle. The Europeans did not have the capability for effective police or military action in the vast, chaotic and sturdy Western Hemisphere.

ACPA on the other hand, lead by the ever-pragmatic Chinese, searched for more positive solutions, solutions which might benefit everyone. In 2552, President Apocatequil Kolombos was able to sign the *International Mutuality Treaty* with ACPA. The provisions vastly improved Hispaniola's economic relationship with the Far East. International Labor Transfers were abolished, as were Internal Taxes levied by ACPAn corporations. Tariffs on Hispaniolan exports to Asia were reduced by 90%.

Within a decade, there began an exodus of Asian administrators from Hispaniola. However, there were several million individuals who enjoyed dual citizenship. These included Asian administrators who had spent much of their lives in Hispaniola, and their descendants, who were born there. This population was given the option to either move to Asia, or to remain in Hispaniola as citizens of that nation *only*. Millions chose to do so. They became known as the *trans-pacifics*. In the next two centuries, their contribution to the nation's science, economy and culture was far out of proportion to their number.

Thus, Hispaniola regained an equitable relationship with ACPA, and what's more, they remained friends. Once this happened, Eurabia and the rest of the world had no choice but to follow suit.

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From the 27th century onwards, Hispaniola increasingly assumed a dominant global economic position. The Continent's inherent advantages were twofold - (1) ecological/demographic and (2) cultural:

(1) For several centuries, the Western Hemisphere relatively primitive horticultural economy and its low, stagnant or even declining population density had enabled it to restore ecological balance. Furthermore, its diet, its vigorous and sturdy life-style contributed to a greater degree of natural selection than elsewhere in the world. While the Hispaniolan death rate exceeded that of many other parts of the world, those who survived grew stronger and more resistant than other populations around the world. The one kink in this cable was the hemisphere's extreme reliance on (dirty) nuclear energy, which was a public health disaster. But as we shall see in a moment, this dependency also became a thing of the past.

(2) Hispaniola never lost that zest for liberty, innovation and free inquiry which was the hallmark of most of its constituent states from their very inception. This ethos and national characteristic was a two-edged sword. On the one hand, it sometimes led to chaos, to political

paralysis, and to the long and dark first half of the 3rd millennium. On the other hand, it was also the reason why Hispaniola eventually eclipsed the rest of the world and became its economic, scientific and political leader.

Thus, during the 2nd half of the millennium, both the *ecological* and the *economic* relationship between humans and the environment improved a great deal in the Western Hemisphere. The Continent returned to the greater efficiency of farming over horticulture. However, even though the production of food was once again rationalized and production units were vastly increased, society did not return to the destructive ways of the 20th century. Methods remained organic, the culture remained 99% vegetarian and the farmers market remained as central as the supermarket had been in the 20th century.

Much of the Continent was reforested. By the beginning of the 29th century, 58% of the former province of English America was covered by forest, and so was 69% of Amazonia. Furthermore, coal now provided only 3% of the nation's energy.

For over half a millennium, Hispaniolans relied on nuclear energy, at an appalling cost to public health. There were frequent attempts by ACPAn as well as Hispaniolan scientists to discover ways to produce "clean" (i.e. non-radioactive) nuclear energy, among other things through cold fusion. For example, in 2567, Hispaniolan scientists working at the Harbin Nuclear Research University in China discovered a method to miniaturize radioactive waste through a revolutionary form of ion exchange. The federal government built a prototype reactor as a trial run for the new technology. However, this turned out to be a great disappointment, as ACPAn scientists, who tried to replicate the tests at Harbin, failed to achieve the miniaturization.

The search for an alternative, clean, non-contaminating source of energy continued. As we shall see in Section Three of this chapter, Hispaniolan scientists eventually took the lead in Super-Quantum physics and in (APM)Anti-Particle Mechanization. In 2688, scientists finally hit the jackpot. That year, *Dr Iberius Mescalonex* (See Section Three) was able to harness antimatter energy into controllable and portable packets. The first Antimatter Central was built between 2691 and 2698 on the Island of Orleans in the Saint Lawrence River, in Acadia Province. Within seventy-five years, the continent's power grid was entirely retrofitted to accommodate antimatter. The last Hispaniolan nuclear power plant was shut down in 2762.

Antimatter and anti-particle mechanization technology became an enormous source of strength and wealth for Hispaniola also for a second reason: The country became the primary manufacturer and exporter of such technology. During the 29th and 30th centuries, thousands of Hispaniolan scientists and engineers fanned out all over the world to lead other regions in their development of antimatter technology.

By the 28th century Hispaniola also led the world in space colonization, in mind science and in public health. Indeed, the nation's life expectancy was, at 128 years, the highest in the world (with the exception of Greenland's). It was not uncommon for individuals, often women and trans-pacifics, to live beyond 200 years (See Section Three and Table 8 in Chapter Eight).

Acadian Anti-matter Central



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As the world approached its fourth millennium, Hispaniola became an economic giant whose economy dwarfed that of all other regions. The western hemisphere's enormous wealth was in part home-grown, but much of it was derived from its productive space empire (see Section Three).

During the 28th and 29th centuries, Hispaniolans criss-crossed the solar system and established large and growing colonies on Mars, on Saturn's *Titan*, on two of Uranus' newly

discovered satellites - *Riveria* and *Jonasi* - in addition to numerous outposts on several dozen other moons. They also established themselves in orbit around Jupiter's *Callisto*, although the country wisely learned from ACPA's earlier experience that most of Jupiter's moons were poor choices for colonization, due to their intense exposure to both solar and planetary radiation.

The colonies served three purposes: (1) the extraction and shipment of minerals to earth, (2) the foundation of societies which functioned as extensions of the homeland, and as (3) trading partners, whereby the colonies bought from the homeland products which they were unable to produce themselves, and in return shipped to the homeland goods which they were able to grow or manufacture more effectively than on earth.

Initially, the colonies' economies were almost purely industrial, importing nearly all of their food from earth. However, the Terran colonists, lead by Hispaniolans, made steady progress in the reclamation and the **organization** of solar bodies. This word acquired an entirely new meaning. To "organize" now meant "to render organic," to create life.

The exploration and identification of the most promising candidates for colonization and organization were often carried out under the aegis of the Kyoto World Council's **International Space Organization Administration**. (The ISOA). Their allocation was another matter (For the politics of organizing the solar system, see next section).

Many moons and some planets possessed the building blocks needed to establish thriving biospheres. Reclamation required hydration and irrigation, oxygenation, carbonization, hydrogenization, photosynthesis and a vast array of other measures. But many of the kernels were already present in dozens of solar bodies, many of which already possessed such basic biogenic elements as carbon, water, nitrogen, sulphur and phosphorus. Terrans did not *create* life, they merely *developed* it.

By the early 29th century, Hispaniola began to import agricultural products from Mars. Three decades later, the colonies on Saturn's Titan and Shen Kuo began to export vast amounts of hydrocarbons, deuterium and helium-3 to earth and to other solar colonies. The economic integration of Hispaniola's colonies on Riveria and on Jonasi (Uranus' two recently discovered moons) was a somewhat greater challenge, due to distance: At 2.6 billion kilometers from earth, nearly one year was required to reach those colonies, using conventional proton reactors. Finally, at the very end of the 3rd millennium, Hispaniolan scientists developed an anti-matter engine which increased the speed of space travel ten-fold and enabled astronauts to reach Uranus and its satellites in a bit over one month time (See Section #3).

Hispaniola also tried to colonize Jupiter's Callisto. While Callisto was only half as far as the Uranus moons were, it suffered from a different problem - dangerously high levels of ultra-violet radiation emanating from both the sun and from Jupiter. Scientists were able to neutralize some of this, and to colonize some of the moon's regions. However, the population continued to require anti-radiation protective shelter. Callisto became productive industrially, but not agriculturally.

Despite the growing economic viabilities of the colonies, the Earth remained the Solar System's breadbasket. What many of the colonies truly excelled at were industry, labor and communication. The lighter gravities enjoyed in most of the colonies gave them a productivity advantage when it came to bionic manufacture, transportation and virtual components.

By the end of the millennium, some of Hispaniola's largest space colonies - for example Mars and Titan - reached populations of several million, augmented seasonally by hundreds of

thousands of tourists.

Not only did thousands travel to the colonies. Travel by colonists to Earth was also popular. Hispano-Martians made up the largest contingent, but they were by no means the only ones. Even Riverians and Jonasians traveled to earth. To them, the immense voyage made more sense if they could spend a once-in-lifetime, five- or six-year stage on Mother Earth. On the other hand, Hispano-Martians and others closer to home would visit Terra more frequently, for example for business or when on furlough.

Visits by colonists were not without problems. They differed from the home population in many ways. The colonies were wide open, wild, self-reliant, tough, and their cultures reflected that. The colonists were physically large and strong, frequently taller than two meters and weighing over 130 kilos. Many had greater technical skills and higher intelligence than the average terran. Finally, there was resentment. Everyone knew that the colonies were exploited by the mother planet, and that Hispaniolans lived in far greater comfort than did the colonists. When colonists landed on Earth, they were shocked by the reality of the disparity.

Thus, colonial visitors to Earth often got in trouble, and they also *gave* trouble. For example, since the colonies' sex ratio remained out of whack, and because their populations sometimes stagnated, there were several spectacular occasions when colonists hijacked entire shiploads of terrans, especially women.

For example, in 2919, thirteen executives of *Allied Bionics* traveled to Hispaniola from the large asteroid Ceres, which had a thriving colony. The group's leaders were the two brothers who had founded and owned 29% of the company - *Roberto and Damores Sanari*. They also brought along two dozen service *bios* (an abbreviation of the word *Biosimulon*. Words such as "robot," android and "cyborg" were no longer in use). The group used one of the company's third generation Discovery-class spaceships - the *Jovian Beam*, covering the 300 million kilometers in two weeks.

The *Jovian Beam* landed at Cape Obama on the Big Island of Hawaii. The trip was ostensibly meant for both business and pleasure. The group checked into the luxurious *Kamehameha* Residency, the exclusive preserve of space travelers, floating off-shore five thousand meters above the pacific. At the same time, another group of travelers had checked into the same facility: members of the University of Hawaii's department of space organization, which had just returned from Mars. This was a large and diverse academic group which included research scientists, astral engineers, bio-engineers and their numerous assistants.

The Jovian Beam stationed at Cape Obama



Suddenly, at dawn the following day, the visitors from Ceres stunned the world: With the flawless assistance of their 24 superb service bios, they severed the *Kamehameha*'s external communication links and took over control of the facility. The remaining residents of the *Kamehameha* were now their hostages. They included the very large group from the University of Hawaii. What the visitors from Ceres wanted became clear when Damores Sanari approached the leadership of the Hawaiian Scientific team:

“We need you to join us on Ceres,” he explained. “We need your expertise, your brains, and especially your women.”

It became clear that this was a hijacking and a kidnaping by a group of extra-terrestrial colonists. It was also clear that they meant business, because by late afternoon, the *Jovian Beam* was hovering near the *Kamehameha*, ready to receive the captives, and transport them back to

Ceres. The spaceship had been brilliantly steered and readied by a team of service bios who had been trained for this operation.

The contingent of helpless Hawaiian scientists consisted of 19 women, 16 men, 7 transgendered, 6 eunuchs and 13 children, a total of 61 people. About one third of this total were gay, two thirds hetero.

The Sanari brothers explained that the 19 women were needed in Ceres, as were the 7 young girls. The colony's population was stagnant, and it was in dire need of reproductive fertility, especially such as could be provided by high-IQ scientists. The gays were also highly prized, due to their socialization skills, and they were given no choice but to go to Ceres. The remaining two dozen people were offered a choice: remain on earth, or go to Ceres. About half of them accepted to go.

There were also about one hundred other residents at the Kamehameha at the time of the hijacking. An assortment of vacationers, business executives and cultural athletes. They were given the same choice - stay, or board the Jovian Beam and move to Ceres permanently. Damores Sanari explained to this group that he could not guarantee them upper-level positions in Ceres' cyber-office, as he had promised to the Hawaiian scientists, since they had not been IQ pre-screened. Nevertheless, nearly half of these "non-scientists" accepted the "invitation."

After about 65 people were permitted to exit the Kamehameha Residency, the Jovian Beam set out to depart for Ceres with about one hundred new passengers, many of them against their will. There were those who protested vehemently, screaming and threatening violence, and there were those who tried to soothe them, telling them that they were headed for a far better and more exciting existence than they could ever expect on Terra.

Soon after departure, the ship's *tranquison*e system was activated, and this put an end to the pandemonium. Heart rates declined to below 20 and all humans on board slipped into a gentle lethargy.

During all this, the Hispaniolan authorities had not been idle. They decided on a strategy of capturing the *Jovian Beam* once it reached the extra-terrestrial zone, 3000 kilometers above the earth's surface. This was dictated by the fact that the beams which were to be used to incapacitate the ship and its crew could only be used in space. Their use on earth would have had devastating "collateral" consequences for a large number of terrans.

Therefore, a detachment of Hispaniolan space patrols gave chase, planning to disable the Jovian Beam, and to steer it to a lunar landing. However, the Sanari brothers had anticipated this. The Jovian Beam was equipped with a neutralizer, developed by Allied Bionics in great secrecy, and rendering the ship entirely immune to the Hispaniolans' disabler. So confident were Roberto and Damores that they joined everyone else in the *tranquison*e sphere soon after departure, handing over control of the ship to a group of elite bios. The Hispaniolan space patrols were not equipped for long-distance pursuit. By the time they called for frigate-class backup, the Jovian Beam had disappeared. Thus ended one of the more spectacular crimes of this era - a total success from the standpoint of the criminals. It was by no means the only such incident.

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Despite some friction between the colonies and the mother country, both sides needed a close economic relationship. That relationship was more beneficial to the homeland than to the colonies, but more essential to the latter. In other words, while Hispaniola exploited and benefitted from the colonies, the colonies could not survive without Hispaniola, at least not initially.

Relationships are often like this. The weaker partner is at the mercy of the stronger one, having no bargaining power due to an absence of alternatives. The strong partner benefits more from the relationship, even though a break-up would not be as life-threatening to him as it would be to the other side.

The mother planet underpaid the colonies for their products and for their labor, and overcharged them for the vital supplies which they had to import from earth. Many of the colonists lived in poverty and in ill health. Crime was rampant and the general atmosphere was that of a wild frontier.

Life in the older and less distant colonies was relatively benign. For example, Martian Hispaniolans enjoyed nearly the same economic and legal benefits as terrans did - for example full Hispaniolan citizenship. However, conditions were much worse in colonies that were founded more recently and enormously far away, for example those established on Uranus' moons *Riveria* and *Jonasi*, at the end of the 29th century.

In 2912, several thousand settlers froze to death on Jonasi, where night-time winter temperatures of minus 120 degrees centigrade alternate with noon summer temperatures of 95 degrees Celsius, requiring state-of-the-art tungsten-based shelter at all times. Unfortunately, a shipment of tungsten scheduled to arrive from Mars was lost, leaving the hundred thousand Jonasi settlers at the mercy of the elements, except for those who found refuge in the emergency subterranean shelters built during the initial settlement. At two and a half billion kilometers and seven months traveling time from Earth (using upgraded proton technology), the colony could not expect any help from the Mother Terra in the immediate future.

One constant thorn in the colonists' side was the Hispaniolan government's nasty chemical policy: In concert with the psycho-chemical corporations, the Hispaniolan government instituted a policy aimed at enhancing the productivity of the colonists. All adults (defined as 35 or older) were subject to weekly *energizer* treatments, which consisted of virtual chemo-radial irradiation. There was periodic mandatory testing, and psycho-medical health coverage was contingent on compliance.

This was just one of a list of grievances which made the colonists increasingly resentful and which led, during the 30th century, to mounting resistance. By the 2930s, peaceful protest was ebbing into occasional forceful uprisings. One of the most prominent leaders of the *equality* insurrection was a Robin Hood-like character with the flamboyant *nom-de-guerre* of *Eleutheros*.

We shall discuss the *Equality* movement in the next section. Here, I merely note the economic consequences of this conflict:

As the 30th century progressed, the Hispaniolan government realized that its policies were flawed, immoral and costly. By the middle of the century, it abolished its psycho-medical policy of energizer treatment in all but the most remote colonies. By 2975, it wisely went a step further. It offered absolute equality to the overwhelming majority of the colonists, including full Hispaniolan citizenship. This diffused the independence movement in all but one colony - *Ceres*.

Apart from the short but bloody war of independence by Ceres (see next section), the equalization of the various parts of the Hispaniolan Solar Empire led to long-term peace and prosperity for an overwhelming majority of its people. The rebellion was never a movement for independence and secession, but one for equality. An analogy might be with what happened with race relations in the United States of America during the 20th and 21st centuries. At that time, the

overwhelming majority of African-Americans sought equality and not independence and secession from the United States. Similarly, the colonists fought for full federal co-equal status. Once this was achieved, they had no further desire to abandon the Hispaniolan Union.

During the 4th millennium, the Hispaniolan Commonwealth remained largely united and prosperous. It was by far the most successful, most powerful and most affluent one in the Solar System. During the following centuries, Hispaniola and its extra-terrestrial provinces provided leadership to an increasingly unified earth. As we shall see in Chapter Eight, rivalries lingered on, especially in space, where terrans were competing as they settled the various parts of the solar system. However, in time, a unified earth was able to project a relatively unified Solaria as well.

2. Politics, Government and Conflict: The stage for Hispaniolan recovery was set during the *Great Awakening* of the early 26th century and by its forerunners, such as Dr. Adriana Cruz and her daughter Isabel (See Chapter Five). By the middle of the 26th century, strong and resourceful political leadership was emerging. In 2542, Hispaniolans elected *Kristofer Apocatequil Kolombos* to the federal presidency. The man was 44 years old when elected. His presidency lasted twenty five years, as he died in office in 2567.

President Kolombos was a Doktorandus in Animism, receiving his degree from the University of Cuzco at the age of 22 and researching the Andean fields until the age of 37. He was born in an Andean village, and he spent the first decades of his life living at altitudes exceeding 4000 meters. His most uncanny ability, in addition to great empathic intelligence, was that he could get by on no more than two hours of sleep per night - on a chronic basis. He combined his superhuman natural physical resistance with an intersubjective IQ which fluctuated between 170 and 210, and a nearly equal objective IQ. Thus, part of his success was, firstly, the result of enormous personal gifts at all levels.

Kolombos also benefitted from good fortune. He arrived on the scene just when Hispaniolan society was rising from a centuries-long turpitude. The road to success was paved by predecessors. The people were hungering for fundamental change, for unity, order and reason. They came to reject their petty leaders' assurances that the society's best bet was to rely on the leaders' probabilistic intuitions. Kolombos and his team exploited the nascent desire for more rational leadership. His twenty-five years at the helm of the vast continental federation provided great stability.

Another bit of luck was that the world went through a cycle of relative global cooling, at precisely this time. Hispaniolan horticulture thrived as never before, which facilitated the transition to a more productive form of agriculture.

To be sure, the road to recovery was not without bumps, i.e. some bloodshed (See below). But Kolombos and his team were never alone, and each successive political victory led to additional groups rallying to their support. The greatest source of support came from scientific institutions. Philosophers and psycho-socio scholars provided an invaluable resource base for the promulgation and enactment of progressive policies.

Two of the most influential intellectuals of the 26th century were *Tao Bhikshu*, an immigrant from Tibet, and *Kalash Prasad*, a quantum physicist and electro-mentalist of East Indian ancestry.

(1) Bhikshu's major contributions were political and ethical. He was a psycho-spiritual one-worlder. His equations proved that the planet's entire population descended from no more

than 1200 initial men and women, thus providing scientific proof for Schiller's and Beethoven's *Ode to Joy*, i.e. proving that we are *literally* all brothers (and sisters). He became a member of several federal cabinets, including that of President Kolombos, who appointed him Minister of Global Integration. In that capacity, he moved Hispaniola and the rest of the world closer to Global Federalism.

2) Prasad lived in the 27th century. He was the inventor of the "bio," i.e. the hybrid organic-mechanical creature to which people referred as a "cyborg," a "robot" or an android in the 21st century. In 2678, Prasad succeeded in creating a bio which, for the first time, possessed not only consciousness, but also moral judgment, including guilt. This great invention will be discussed in more detail in the next section.

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Domestic Hispaniolan politics during the latter centuries of the 3rd millennium were vibrant, without degenerating into destructive conflict. The democratic process was able to accommodate deep differences among factions. From the beginning of the 29th century onwards, the country was split between two fundamentally opposite visions. This split was fostered upon the nation by its spectacularly successful conquest of space. As Hispaniolan settlements proliferated across the solar system, there arose two attitudes, two camps: One was vigorously pro-space, advocating maximum effort in that direction. The other resisted this. Its priority was to optimize conditions on Terra. This latter group became known as the *Terran Party*, whereas the former were given the name of *Exo Party*, or *Exos*, for short.

30th century Hispaniolan politics, elections and campaigns were more about the competition of these two parties than about anything else. The Exos stressed the benefits of extra-terrestrial settlement, whereas the Terrans focused on its costs. Since resources are always finite, the competition was about priorities. The Exos favored maximum allocation of resources to Hispaniola's many space programs. They noted the enormous returns which those programs provided for Terra, if not immediately, then later. On the other hand, Terrans insisted on spending as much as possible to improve planetary conditions at home. For example, the earth required massive re-forestation, Africa and other regions were in need of vast economic aid and police actions against rampant lawlessness.

Each party experienced successes, and both were willing to compromise. In the long run, the Exos were gaining the upper hand. As the fourth millennium approached, conditions on Terra were improving. The globalization and unification of the planet were well underway. The world's ecology was improving. Armed conflict and lawlessness declined. All these developments paved the way for an ever more forward-looking attitude, the view that humankind's future was in space.

* * * * *

Hispaniola's foreign policies were affected by the same positive trends: As the 2nd half of the millennium progressed, globalization was once again moving forward. However this time, unlike during the 19th, 20th and 21st centuries, globalization meant *unification* rather than exploitation. There arose an increasing understanding among the world's component parts that

unity and cooperation were more beneficial than competition and conflict.

There was a great increase in the number of *IGOs* - Intergovernmental Organizations. Agencies such as Interpol, the WTO (World Trade Organization), the Universal Postal Union, the International Olympic Committee, the International Space Agency and the World Court had been around since the 20th century. Now, these were supplemented by a host of additional agencies such as the *World Interweb Administration* (created in the 25th century), the *World Arbitration Agency* (2570s), the *International Space Organization Administration* (2572), the *International Environmental Agency* (2490s), the *Global Scientific Organization* (27th century), the *International Peace Keeping Force* (28th century), and many others.

Moreover, what was truly a quantum leap was not the creation of new agencies, but their acquisition of significant resources and power. In other words, unlike the United Nations, the Kyoto Council and their agencies of yore, the new IGOs had *teeth*. They were funded by large national and corporate contributions and their policies were binding.

Privately invested corporations continued to play a major economic role. However, they were subject to international regulation and taxation, to which they submitted willingly in exchange for a safe, efficient and rational business environment.

From the end of the 25th century onwards, the International Space Agency was in control of earth's twenty thousand and growing number of satellites, and of its hundred plus space stations. By law, all these vehicles were extra-territorial. That is, they were governed by a body of world laws, and under the jurisdiction of the World Council, rather than any specific state.

The IGOs worked effectively together with both the corporations and with national governments, thereby reigning both in. When, in a given project or policy, either a national government stressed its national self-interest too much, or a corporation pursued its private interests too aggressively, the relevant IGO under whose umbrella the project was, would assure the supremacy of global, planetary interests.

The promotion of collective, international objectives was spearheaded by Hispaniola more than by any other government. The great Western confederacy was more internationalist than were most other governments. Its vision for the future was based on the belief that the Terran community was one, and that it must expand into space in a united fashion.

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Hispaniola might not have contributed so much to global progress if it had not thrived so much as an individual nation. One of its great local successes occurred in the late 27th century, when the people of Greenland voted to join the federation.

For the past two and a half centuries, Greenland had been a thriving, progressive multicultural society. Its culture and its people were partially European, partially Hispaniolan and partially *Inuit*. The country guarded its independence fiercely. It also had the best environmental policies in the world. By the middle of the 27th century, relationships between Hispaniola and Eurabia improved a great deal. It became clear to Greenland that merging with its powerful Western neighbor would be advantageous. This occurred officially in 2701, under the *Treaty of Trois Rivières*. The fit was excellent, as Greenland had much in common culturally and environmentally with French America. It brought enormous benefits to the rest of Hispaniola as well, for example its ecological and medical expertise. Its roughly 150 million people enjoyed the world's highest standard of living and its longest life expectancy - 129 years (see next

chapter). The Inuits, at one time 2nd class citizens, were now in a position of enormous influence, leading many of the country's medical, environmental, dietary and cultural practices. For example, the country had long shifted from a heavy and unsustainable reliance on fishing and animal husbandry to state-of-art horticulture, producing the best fruits and vegetables in the world. Now, the famed University of Nuuk was incorporated in Hispaniola's Federal Research Administration, which brought it lavish funding, and at the same time enabled it to serve the entire Hemisphere and the world more effectively - thus a mutual benefit to all.

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The world was moving towards global confederation, bringing world government closer. Ever since the beginning of the 23rd century, the Geneva-based United Nations and the Kyoto World Council had co-existed as two competing and sometimes hostile organizations, each claiming to represent the entire planet. In time, the two bodies became more cooperative. By the 28th century, they overlapped in an often wasteful manner. Finally, in 2790, they merged into one, under the name of **United Terran Organization** (UTO). Headquarters were located in Greenlandia.

Creation of the UTO to replace its two predecessors was not mere cosmetics. The new organization had teeth. For example, it operated a **World Police** which consisted of a standing force of 15 divisions, to be augmented as necessary during times of crisis.

During the 29th and 30th centuries, the World Police was deployed dozens of times against piracy, terrorism, slave running, genocidal aggression, and other practices. The actions were so effective that by the beginning of the 4th millennium, such practices practically disappeared. To be sure, the World Police's jurisdiction stopped at the earth's exosphere. It played no role in inter-planetary conflict.

Conflict, lawlessness and war did continue to plague the world at that level. In time, the planet would also turn to the pacification of the solar system, but this remained for the future. In the meantime, when it came to space conflict, crime and warfare, Hispaniola had no choice but to continue to rely on its national armed forces.

Another international instrument wielded by the UTO with great success in pacifying the earth were economic sanctions. Because the world's independent states gave up so much of their sovereignty to the UTO, when economic sanctions were approved against a malfeasant, there was near universal compliance.

An indication of the progress made toward planetary unification and world government was the UTO's decision, in 2857, to elect, every ten years, a World President and a World Vice President. The first President was the Indian **Nishtha Radakrishnan** and her Vice-President was the Hispaniolan **Lucilo Amerindio**. Both were eclectic scientists attached to the **Omega project** in Lhasa.

By the end of the 30th century, the world was more united than it had ever been. National sovereignties had not fully vanished. Hispaniola was the leading nation. Leadership had to be backed up by economic and military power, but its most important aspect was **scientific empathy**. It was on that basis that both Hispaniolan and global leaders were now moving forward successfully.

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Conflict is inherent in the Universe. Its eradication cannot be an evolutionary goal. Only its *management* can. As humanity progressed, conflict remained unavoidable, but the techniques for its management improved - bit by bit. Hispaniola experienced political conflict, violence and even war at three levels: (1) domestically, in the form of regional warfare and lawlessness, (2) internationally, on earth, and (3) in space.

(1) Domestic disorder was the first challenge tackled by the Mexico City Federal Government. This was a success. By mid-millennium, the Western Hemisphere was still racked by regional unrest, remnants of separatist movements led by the local warlords and the petty gangsters who had a heyday for so long. The greatest amount of unrest was in the remote areas of South America, for example Amazonia, the Andes and Patagonia.

Considerable progress was already achieved by great mid-millennium leaders such as President Kolombos (2542-2567). However, another century lapsed before the central government was able to fully pacify and gain control over the most troublesome regions.

For example, from 2618 to 2641, there was a nasty war in the Amazonas. The city of Manaus had long been controlled by a coalition of local warlords, as were many other parts of the former country of Brazil. In 2615, the Hispaniolan parliament decided to start a massive reforestation program for the region. The country's president at that time was another South-Hispaniolan, *Madame Gabriela Vegan*, a former spatial enhancer by training. Because Madame Vegan was of Amazonian origin, it was hoped that she would be able to rally support for the program among the affected population.

The coalition of Manaus warlords ran an archaic and dysfunctional economy. They owned some of the last cattle ranches on Terra, producing illegal but highly coveted beef. This necessitated vast corn fields, ruinous and costly to the environment, but needed for the cattle. There was mineral extraction, some industry and - most profitably - hallucinogenics farms. The reforestation program presented a threat to all this.

The first federal reforestation teams arrived in July of 2617. Over five hundred members were promptly kidnaped as hostages. Weeks of negotiations followed, during which the Manaus chieftains began to alter some of the hostages, sending them back in irreversibly altered states. In January 2618, President Vegan sent federal forces to Amazonia. The initial campaign was violent. The federales used air assault and irradiation campaigns against suspected enemy strongholds. However, the area was vast and the government got bogged-down in a never-ending and unsuccessful effort to distinguish between friend and foe. This was very difficult, in view of the fact that the tens of thousands of "altered," were often undistinguishable from the general population.

Furthermore, the federales' irradiation campaign made for a docile population, but it placed an impossible economic burden on business and government, as it rendered the population utterly incapable of taking care of its own needs. Meanwhile, the enemy was able to survive and to continue to exact a heavy toll on the federal forces. The stalemate lasted more than two decades, during which nothing was accomplished in the region - no reforestation, no reclamation, no re-integration of the population into Hispaniolan society.

In 2641, the federal government and the leaders of the Amazonian insurrection finally sat down at the negotiating table. The talks lasted two years, at the end of which the following compromise was reached: Reforestation of the region was non-negotiable. The planet's survival demanded it, and it was not only a top priority for Hispaniola, but also a UTO demand. At the same time, the government in Mexico City was willing to let the local Amazonians carry out the program. And of course, the Amazonian economy would have to change unrecognizably. Cattle ranching, cornfields, hallucinogenics farms and most mineral extraction would vanish. All this became acceptable to the local leadership when the federal government dangled two very large carrots: (1) a great deal of economic aid, including full funding of the reforestation program, and (2) local autonomy, which granted Amazonians their own political institutions and their own laws to regulate lifestyles and consumption.

Hostilities had dragged on for over two decades. The cumulative effect of the rebels' alteration campaigns and the feds' irradiation policy had reduced five million Amazonians to a vegetative state, half of whom died within a decade. There were also several hundred thousand conventional, violent deaths - including seventy thousand members of the Federal police force, one hundred thousand enemy combatants, and three hundred thousand Amazonian non-combatants. Most of these casualties occurred during federal search missions into the interior. Thus, the war was ruinous to all sides, devastating the region and its businesses, and costing enormous amounts to the federal government. It was therefore with a great sigh of relief that an agreement was signed to stop all mutual attacks in 2641, and the final *Treaty of Manaus* was signed two years later, stipulating the compromises just mentioned, and formalizing the status of Amazonia as a co-Republic within the Hispaniolan Federation.

The *Manaus Treaty* became a model for other trouble spots. By the end of the 27th century, there were twenty other such autonomous but integral Hispaniolan co-Republics. They included Brasilia, Santa Cruz, Greenland, Acadia and sixteen others. These were the areas which often had distinct cultural identities, and which had always been the most recalcitrant members of the Federation.

The new system worked. The co-republics were subject to federal taxes and federal service, given the choice of military or social service. They did not have independent foreign policies, either on earth or in space. Outside of Hispaniola, they were represented by Mexico City.

The level at which the co-republics enjoyed the greatest autonomy was that of culture and lifestyle: when it came to language, sexual practices, family and group life, recreation, the consumption and regulation of hallucinogens and energizers, probing, and the very important area of *diet*, they enjoyed almost absolute freedom - with the caveat that no practice should be environmentally harmful. The same federal tax laws applied to businesses in all co-republics. However, local taxes varied, and corporations found some co-republics more attractive than others, in that regard.

The federal government had much leverage. Although the vast majority of the millions of bios used in every corner of the nation were manufactured by three companies (Reis, Inc., KUKA and Bioscope N.V.), the industry was rigorously regulated. Furthermore, the control of the nation's communication networks were 100% in federal hands. Thus, by the 29th century, the Hispaniolan government was able to achieve lasting peace and prosperity for the entire Western Hemisphere.

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(2) The second sort of conflict confronting the Mexico City government were international wars on Earth. During the 26th and 27th centuries, Hispaniola still had to often go it alone, when its national interests were threatened. For example, piracy and slavery remained scourges for several centuries. They were often aided and abetted, if not outright practiced, by several Middle Eastern regimes and even to some extent by Eurabia.

Recall that Mexico City suffered a devastating naval defeat at the hands of the IRI in the Battle of the Seychelles in 2388 (See Chapter Six). There followed two centuries during which Hispaniola rarely ventured into the Indian Ocean any more, largely limiting its commerce, travel and everything else to the Western Hemisphere.

However, by the late 26th century, Hispaniola was once again one of the world's foremost economic powers. Its reach was global once again, and the lawlessness of the Indian Ocean was an unacceptable threat to the development of the peaceful, global economic system which it was spearheading.

In 2580, for the first time in two centuries, the Federales conducted a police action against pirates and slave traders in the Indian Ocean. The campaign was brief but intense. Much of the fighting was naval, but some of it took place on land, in East Africa. While the enemy appeared to consist of free-lancers from a host of different countries, much of its arsenal was of Persian origin, as were many of the combatants. The outcome of the brief war was inconclusive, although certainly not a defeat for Hispaniola. The long-term aftermath was to Hispaniola's advantage, as slavery and piracy declined steadily throughout the 27th century. The reason for this was probably not Hispaniolan military action, but the inner decay of the IRI, the growing difficulties and impotence of the UIA, Eurabia's increasing weakness, in sum the fortuitous decline of the forces which had supported and engaged in those nefarious practices for so long.

Another military campaign which a resurgent Hispaniola felt obligated to conduct was its attack on Kashmiristan in 2637. This, too, had been a region of perennial trouble. As long as the Western Hemisphere remained an isolated, horticultural society, it could afford to be indifferent to the remote Asian area. However, once Hispaniola became the leader of a global effort towards international peace, justice and prosperity, something had to be done about the lawlessness of the region, which not only made life hellish for the local population, but also threatened the global community, for example India, Southeast Asia and ACPA.

Hence, in 2637, Hispaniolan forces, joined by a contingent of Indians, carried out a police action in Kashmiristan, destroying the bases of operation of a number of tribal warlords, and irradiating a large segment of the population. The ultimate benefits of this campaign were as ambiguous as those of the campaign of 2580. Perhaps its most positive aspect was the fact that the world was put on notice that international lawlessness was no longer acceptable, and that the earth did in fact have a police.

Major improvement in the fight against lawlessness came about in the late 28th century. Only after the creation of the UTO in 2790 and of the World Police 35 years later, did international police actions become truly collective. By the 29th century, Hispaniola stopped conducting individual military campaigns on its own. All further military action against genocidal warlords, lawless regimes threatening their neighbors, and other threats to world peace

and prosperity, were UTO sanctioned and internationally manned and funded - or they did not take place. The age of *effective* global cooperation - if not yet world government - had arrived.

***President Kolombos (2542-2567) and his Consort



However, this did not come about before one more major global war had to be settled. Since the beginning of the 22nd century, the Islamic Republic of Iran had been a strong, militaristic, nuclear, theocratic empire that expanded its territory through wars of conquest. By the middle of the 23rd century It controlled an area of over 10 million square kilometers, much if it consisting of former central Asian countries such as Kazakhstan and Uzbekistan. The IRI was also the most aggressive practitioner of “African labor transfer,” the euphemism for slavery, and it gave hidden assistance to Indian Ocean piracy. Because of its military might and its culture, it commanded the respect of fellow-Muslim nations such as the United Islamic Alliance and the Eurabia Union.

The ACPA, lead by China, behaved in its customary “pragmatic” fashion. That is, its major effort was always to avoid antagonizing the powerful imperialist in Teheran.

The only country which occasionally conceived of standing up to the IRI was Hispaniola. However, the western democracy was far too weak to be able to take on the IRI. For example, its attempt to go after IRI-supported pirates in 2388 led to a disastrous defeat - the Battle of the Seychelles. Thereafter, Hispaniola knew better than to confront its powerful, long-term enemy.

But in time, the IRI began to collapse under its own weight. Its permanent occupation and oppression of hundreds of millions of hostile, non-Persian people took a heavy toll. After the country ran out of oil, its economy suffered. Its space program lagged behind those of ACPA, Eurabia, the UIA, India and - eventually - Hispaniola. The problem with the IRI’s space program was that it was almost entirely geared to military use, for example space lasers, space monitors, offensive missile systems and defensive shields, neglecting space colonization and exploration.

Furthermore, the IRI’s imperialism became increasingly a drain rather than a benefit. The nation maintained control over its vast Central Asian provinces, but at a heavy cost. Its presence in Africa also became exhausting rather than profitable, as its economic activities there always required military backup.

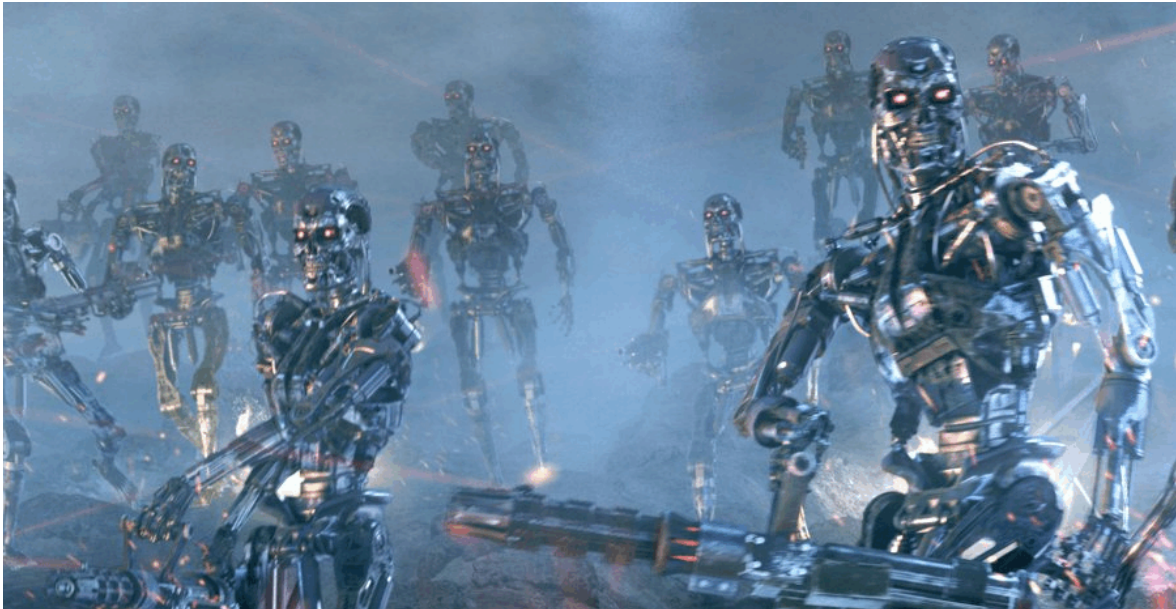
It succeeded in converting hundreds of millions of Africans and Asians to Islam, establishing thousands of Madrassas in its far-flung sphere of influence. However, the teachings evolved into a body of knowledge more concerned with rules of health, cleanliness, diet, lifestyle, sexual behavior, and commerce than with theological issues. In other words, to millions of people Islam was a semi-secular habit to which one paid lip service, no longer a sacrosanct theology fanatically adhered to and worth killing and dying for. The few remaining mullahs in Teheran were a relic, wielding little power. The IRI became a creaky empire reminiscent of the dying Ottoman Empire during of the 19th century.

Hispaniola finally saw its opportunity at the beginning of the 28th century: In the 2730s and 2740s, several of Terra’s international space programs were forging ahead vigorously, colonizing dozens of bodies in the solar system. Most of the programs were multinational, and they were carried out under the egis of the UN or the Kyoto World Council (which were no longer at odds, and which would soon merge into the *United Terran Organization*).

The worldwide astronomical community agreed that the ancient space launch facility at Baikonur, Kazakhstan, provided by far the best longitude, latitude and weather conditions to become the planet’s central space port. There was only one problem: that site was in the possession of the Islamic Republic of Iran.

In 2751, the UN and the KWC both adopted a near-unanimous resolution demanding that the Baikonur area be internationalized and turned over to the International Space Organization Administration (ISOA). When Teheran refused, Hispaniola saw its chance to settle some very old scores. In the winter of 2752, it launched a force to a site 120 miles East of the Aral Sea. The force consisted of 1500 bios under the guidance of 150 specially trained techno’s. It proceeded to occupy Baikonur.

Bio troops taking over the Baikonur Space Facility



Teheran saw this as a *casus belli*, and it reacted accordingly: It surrounded the base and tried to dislodge the Hispaniolan invaders. However, the latter had erected an impenetrable laser shield, and the situation became a stalemate.

During the following two years, Hispaniola held on to Baikonur by re-supplying its force by air. This was relatively easy, as the force was 90% bionic, operating on nearly inexhaustible reserves. To be sure, the 150 humans required logistical support, and there were some casualties, including some among the supply aircraft.

The IRI switched tactics. It began to mount ever more frequent attacks on Hispaniolans elsewhere around the globe, for example in the Indian Ocean, in Africa, in the Middle East and in South Asia. The conflict escalated into a global war, even though it was principally only between two contestants.

By now, in the second half of the 28th century, the IRI's technology and resources were no match for those of the great Western Hemispheric nation. The Iranians relied to a large extent on *humforces*, whereas Hispaniola relied far more on bios, drones and other *mechaforces*. Its response to Iranian attacks consisted of electro-magnetic irradiation and ultra-sound alteration campaigns, followed by human penetration. The problem with this was a very high level of

collateral damage. Large civilian populations were reduced to near-vegetative state, and commerce and development suffered a great deal. The areas most severely affected included East Africa, and parts of the Middle East, Central Asia, and Mesonesia. The millions who were subjected to irradiation and alteration lived on, but many died prematurely. And of course there were thousands of conventional violent deaths as well.

The war dragged on for over two decades. Although Hispaniola had the upper hand, the conflict was a drain on its economy and on its population. Since its initial take-over of Baikonur was the execution of a ISOA mandate, it could have expected international assistance, but it received very little. India provided some logistical help, along with a handful of smaller nations. For the rest, the members of both the Kyoto World Council and that of the United Nations limited their support by voting to approve Hispaniola's police action, while not raising a finger to help. The majority voting for approval was larger at the KWC, where over 80 % voted in favor, than at the UN, where only a slight majority voted to approve.

In the past, attacking one of the major Islamic nations would have meant that other ones - the UIA, Eurabia, even Indosenia and the tribal wasteland of Kashmiristan would have lined up in support of their fellow faiths men. But by now, the IRI was "the sick man of Asia." So, while the UN and KWC membership let Hispaniola do its dirty work and failed to respond to that nation's repeated requests for military assistance, neither did a single nation provide the IRI with assistance. Everyone sat on the fence.

Baikonur is located in South-Central Kazakhstan. In time, the Hispaniolans proceeded to liberate much of Kazakhstan from IRI rule. However, while a majority of the population welcomed this, the effort to dislodge the IRI forces from the region was costly and arduous. As late as the 2780s, Hispaniola had to maintain a large police force in place, half of it human and half bionic.

Then, shortly before the turn of the 29th century, two things happened: (A) the total disintegration of the IRI, leading to the creation of dozens of independent states in the Middle East and in Central Asia (one of them was centered in Baikonur and named *Cosmia*). (B) the creation of the unified UTO (*United Terran Organization*) in 2790, to replace both the UN and the KWC, followed three years later by the creation of the World Police.

Hispaniola was finally off the hook. Its role as the peace keeper in Central Asia was taken over by the World Police. In addition, the World Police also took on the pacification of other areas, namely East Africa, and all the former IRI territories which were temporarily still in chaos. This turned out to be a long-term nation building program. Not until the end of the 29th century did most World Police personnel leave these areas. By then, all remnants of theocratic totalitarianism were gone. Thanks to an intervention initiated by Hispaniola, and then picked up by the international community, most of the area formerly controlled by the IRI joined the community of peaceful solar nations.

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3) Thirdly, Hispaniola also experienced military conflict in space. Throughout the second half of the third millennium, international conflict was not limited to Earth. It also extended to space, as the major Terran powers increasingly projected themselves into the solar system, exploring, settling and carving out colonial spheres for themselves.

This was not a repeat, on a gigantic scale, of what had happened on earth from the 16th through the 20th centuries: Then, the European powers acquired colonies, and competition between them in the tropics led to many wars. Eventually, those wars were brought home in the great 20th century disasters of World Wars One and Two. In other words, Intra- and Extra-European conflicts were linked.

A millennium later, the situation was different: Conflict in space could have been expected to ebb over into conflict on Terra, and vice-versa. But it rarely did. The chief reason for this was that the planet had made great strides towards unification. Extra-terran affairs were increasingly under global jurisdiction, not under the governance of a particular terran nation. Particularly after the creation of the *United Terran Organization* in 2790, the world's independent states wisely deferred to that body when it came to extra-terran policy. Of course, this required strength and leadership.

This was increasingly provided by Hispaniola, assisted by ACPA.

Until the middle of the millennium, ACPA was the leader in space, while Eurabia also played a significant role. However, in time, Hispaniola came roaring back to take over the uncontested leadership. In space as in other areas, ACPA increasingly became a partner rather than a leader. China, Japan and the rest of ACPA were happy to assist Hispaniola on projects ranging across much of the solar system (see below).

The upshot was that terran conflict hardly ever boiled over into space conflict. For example, the fierce 2752-2773 war between Hispaniola and the IRI remained a strictly terran affair. To be sure, both contestants attacked and destroyed vast arrays of military and some civilian targets circling the globe. However, no distant colonies or settlements on extra-terran moons or planets became involved in the war, for the simple reason that the IRI barely *had* any extra-terran colonies or allies, having placed all its eggs in terran expansion into Asia and Africa.

To be sure, the world and its de facto governing body, the UTO, did face some potentially explosive issues pertaining to space, none more so than the ***politics of organization of the solar system***. Remember that the word "organization" meant something entirely different from its traditional meaning: In the context of 28th to 30th century space politics, it meant "rendering extra-terran bodies fit for human settlement." As we shall see in Chapter Eight, the world succeeded in handling this thorny issue administratively rather than militarily.

The one problem which led to inevitable bloodshed in space during this era was a different one, namely the growing clamor for equality among space colonists. By the 29th century, the total population of the solar system was estimated at nearly nine billion humans and three billion *bios*. Of these, nearly seven billion humans and two billion *bios* lived on earth. The others were spread out across the solar system. Conditions in the colonies were generally far inferior to those on earth. The colonists were second-class citizens of their mother-countries. They were exploited in many ways, producing wealth for Terra, but seeing little in return.

In time, many colonies saw the rise of protest movements. However, these invariably took the form of equality movements, not independence movements (with one exception). Most colonists realized that they could never go it alone. They did not wish to sever their ties with earth, they merely pushed for equal living conditions.

The best-known protest movement in the Hispaniolan colonies arose at the beginning of the 30th century, under the leadership of *Eleutheros*. This in turn was followed by the brief but very violent *Ceres War*. It took Hispaniola 35 years (2920-2955) to achieve permanent peace in space.

Little is known about Eleutheros' background, apart from the fact that he was born in the late 29th century on Saturn's moon *Phoebe*, and that he moved with his clan/family to Uranus' *Riveria* as a youngster. There, he worked as a community agent for about a decade, dedicating himself to alleviating the plight of the colonists on that distant body. In that capacity, he traveled to Hispaniola several times, becoming acquainted with terran conditions, politics and ethics. He then began an internship with the Omega Project in Lhasa.

His ethical efforts were largely frustrated, and he became appalled by the terrans' absence of awareness of and caring about the lives of two billion extra-terrans living in the solar system. This radicalized him. By the early 2920s, Eleutheros had internalized the Second Law of Thermodynamics, and he knew that only force could change the *status quo*. He began to organize his growing number of followers into activity cells. Some of these were on Terra, but most of them were among small, isolated groups of colonists found on the Moon, on Mars and on the Asteroid Belt. These small bands took up action both on the ground and in space, raiding both settlements on the ground and space ships on their way to and from earth.

By the 30th century, forceful human conflict had evolved. In most cases, blowing up men and metal structures with explosives was an anachronism. Instead, conflict was largely carried out by tele-radial means, which were used to attack and to incapacitate or transform the enemy without pulverizing him. Various forms of attack radiation were available even to grassroots rebels such as the Eleutherians, including chemical, bionic, electro-magnetic, laser, alpha-wave and other forms. The results ranged from mere *alteration* to death. Alteration, when successful, changed a foe into a friend, or at least into a "passive," by re-organizing his psychic processes. However, many instances of radiation led to much less desirable consequences: Some of the victims were reduced to a vegetative state, some died instantly, some later, prematurely.

Still, the tactics enabled the Eleutherians to bring thousands of humans and *bios* over to their side. For example, they would hijack scientific facilities on the ground, in space vehicles in transit and on space stations in orbit. Their targets included psycho-chemical units belonging either to governmental agencies or to corporations, units usually populated by scientific producers. Once a unit was under rebel control, Eleutheros' people would subject their captives to teleradial dosage. This resulted in the irreversible transformation of the victims. Facilities, space ships, their personnel and their cargoes could thus be either neutralized or better yet, brought over to the ranks of the insurrection.

The result was a gradual shift in the consciousness of the colonial regions where Eleutheros and his supporters were able to operate. The shift was slow only because the rebels lacked the resources and the manpower to do more. Colonies dotted the vast expanses of the solar system, from Mars to the moons of Jupiter, from Saturn and Uranus to the Asteroid belt, including for example the mini-planet *Ceres*. The insurrection, then, was fairly successful, as more and more colonists and even some terrans either became sympathizers, or else were neutralized.

Eleutheros was sometimes called a terrorist, more so on Terra than elsewhere. However,

a growing number of people viewed him as a freedom-fighter instead. He successfully propagated his program on Hispaniola's electromagnetic bands, which covered nearly half the solar system, and which the Eleutherians successfully infiltrated. Both the (1) messenger and the (2) message were attractive: (1) Eleutheros himself was handsome and charismatic. His appearance and his voice were gender-neutral. His body combined the typical dark complexion of much of the terran population with the nearly albino hair which prevailed in distant space colonies. His elocution combined neo-Spanglish with an attractive extra-terran accent and refreshing neologisms. (2) His message was uncluttered by ideological baggage about independence and liberty. Instead, it was based on means-ends action sequences, with one central theme - *Interplanetary Solarity*. This was to be universal, undivided, not merely terran. He favored rational hierarchy, not received hierarchy.

By the mid 2940s, this message became widely accepted throughout Hispaniola and all its colonies, and more than 350 members of the *Hispaniolan Camera* (out of 995) were Eleutherians. In 2947, the federal government in Mexico City passed what would be the last and one of the most important amendments to the Constitution: All Hispaniolan colonists in the solar system were granted full Hispaniolan citizenship, acquiring the same rights as terrans, including the right to permanent terran residence.

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Passage of the *Interplanetary Solarity* amendment (as it became known) satisfied the Eleutherians, as well as 95% of Hispaniolan colonists throughout the solar system. The one exception was a group of die-hard rebels on *Ceres* - the largest body in the asteroid belt.

Ceres is about 250 million miles from earth, and its circumference is about 3000 kilometers. Its colonization began in the 27th century. By the mid-30th century, its population grew to nearly a million, most of it concentrated in the city of *Piazza* (named after its discoverer).

For the past century, Ceres had been a thorn in Hispaniola's side. It was a haven for outlaws and a center of piracy. Cereans often intercepted ships and held them for ransom. Sometimes, tourists were the victims. Some were killed, when ransom negotiations failed, and some were kidnaped permanently in order to repopulate the mini-planet. To this end, the Cerean pirates preferred to kidnap fertile women and children. Recall for example the Jovian Beam incident in 2919.

Now, in 2947, Ceres refused to accept the *Interplanetary Solarity* amendment. Instead, it declared its independence. During the following six years, there was a vast increase in Cerean predation upon solar traffic. Not only were numerous Hispaniolan ships hijacked, but so were those of other countries, including ACPA and India. The most frequent victims were small private companies which did not have the resources for extensive mercenary protection. Sometimes the ships were returned for a stiff ransom, sometimes a fight ensued resulting in the ships' destruction and many deaths, but most often the ships were diverted to Ceres, becoming the renegade colony's possession, along with its crew and passengers.

Finally at wit's end, the UTO in 2953 gave Hispaniola authorization for large-scale military action against Ceres. This was an exceptional measure, as space policy was no longer within the purview of separate countries, but always under the authority of the global

government.

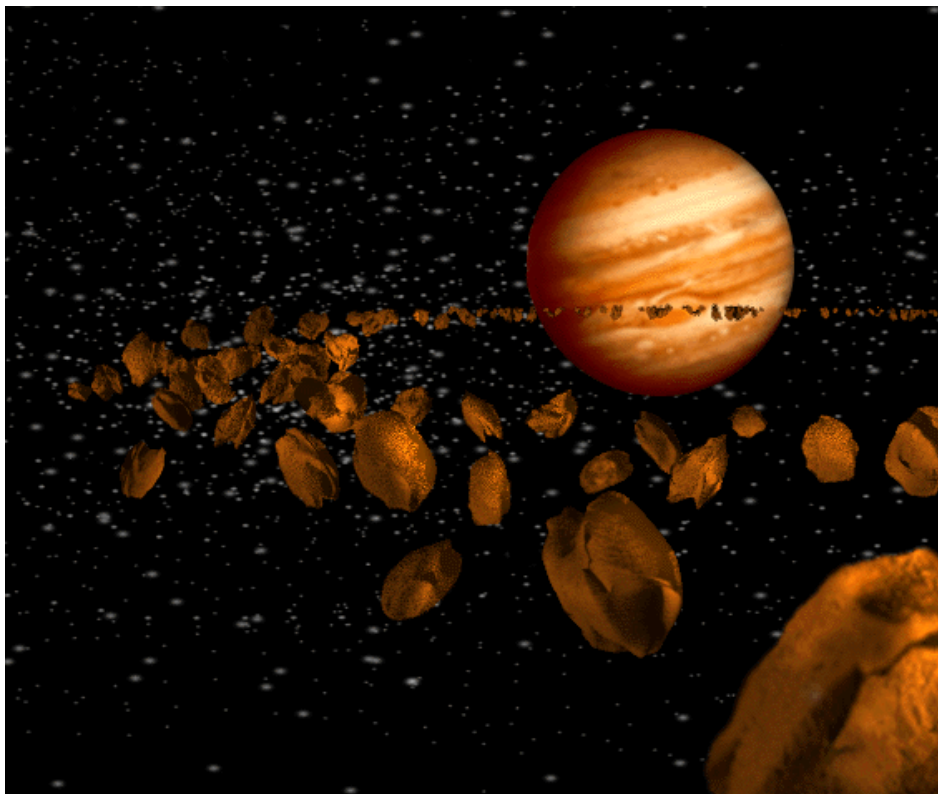
But not this time. The responsibility to solve the “Ceres problem” was delegated to Hispaniola. The Hispaniolan Camera promptly ordered appointed Eleutheros commander-in-chief of the Ceres operation, calling the 63-year old man out of retirement.

The campaign was brief, but extremely violent. Eleutheros initially employed the same means as those he had used so successfully against Hispaniola - radiation attacks aimed to change minds rather than to destroy bodies or structures. However, the Cereans had developed counter-measures against such means. The UTO gave Eleutheros authority to use a new biochemical disabler only used against non-humans in the past (for example to disable dangerous animals and malfunctioning *bios*). It was dubbed the “mushroom.” The compound upon which the disabling substance was based is called *phenogabentin*. Its impact is airborne and immediate. Its effect is temporary paralysis and permanent lethargy.

The forces under Eleutheros’s command at first tried to deliver the “mushrooms” by drones and by remote-control bombs. However, the Cereans managed to elude most of them, being far more familiar with their small planet’s terrain. The Hispaniolans had no choice but to go in and deliver their weapons in person. Fierce hand-to-hand combat followed, taking the lives of thousands of humans and *bios* on both sides. By 2955, Ceres was reduced to rubble. Its population, if not dead, was reduced to permanent vegetative state.

It took the remainder of the 30th century to rehabilitate Ceres, to repopulate it with law-abiding colonists and to re-integrate it into the community of solar nations. This was Hispaniola’s last war. From the 31st century onwards, the earth moved forward under a unified government, as did the entire solar system. There followed several centuries of global and inter-planetary peace.

Ceres: Largest of the Asteroids, and site of 2953-2955 War



3. Science, Technology and Transportation: Until the *Great Awakening*, Hispaniolan science and technology lagged behind those of ACPA, Eurabia and even those of India and the Middle Eastern powers. However, from the 24th century onward, a growing number of eager young minds traveled to Asia and to Eurabia for scientific staves at major Chinese, Japanese, Korean, Indo-Asian and European universities - for example the Harbin Nuclear Research University in China and the Max Planck Institute for biological cybernetics in Tubingen, Germania. Some of these young scientists remained overseas permanently, producing a brain drain benefitting ACPA and Eurabia and damaging Hispaniola. However, many returned, bringing with them the invaluable knowledge which sparked the great scientific awakening of the 26th century. What follows is a discussion of Hispaniolan advances in the fields of (A) bionics, (B) energy, (C) terran mobility, (D) solar mobility, (E) inter-stellar mobility and (F) archaeology.

A) Bionics: As mentioned in the previous section, the development of the *bio* in its definitive form was largely the work of Dr. Kalash Prasad, in the 27th century. Of course, several primitive forms once called “robots,” “cyborgs” and “androids” predate Dr. Prasad’s work.

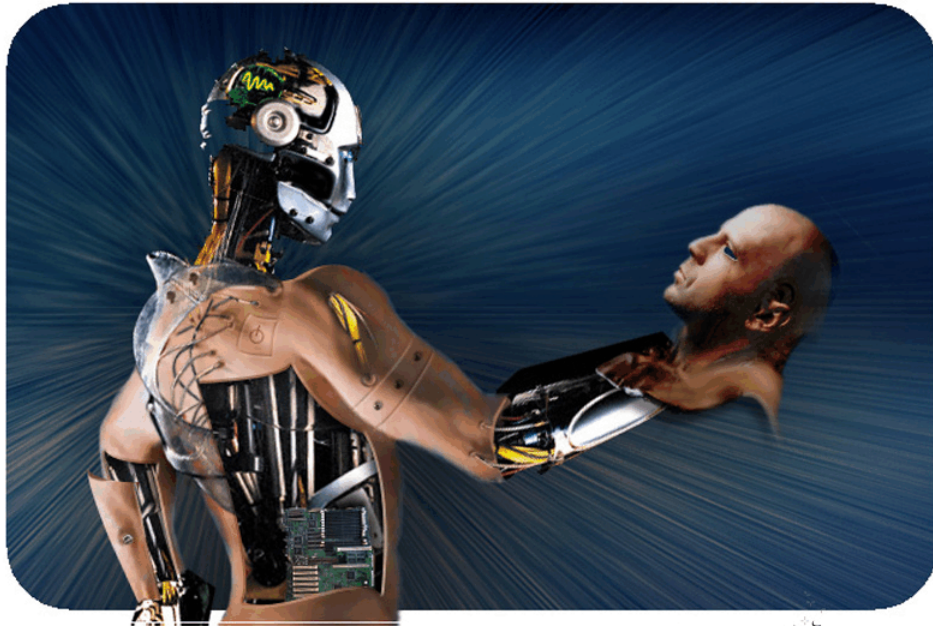
However, it was the great electro-mentalist who achieved a break-through in 2678, when he succeeded in creating a bio which, for the first time, possessed not only consciousness, but also moral autonomy.

Prasad developed complex programs based on the works of Lawrence Kohlberg, Ken Wilber and Amedeo Wolferari, among others. His four-dimensional framework for moral sequencing consisted of (1) sensation, (2) symbolic representation, (3) neocortical organization, (4) complex limbic response, (5) heterotrophic state, (6) group intersubjectivity, (7) rational intention and (8) centauric feedback. Not all bios completed the full sequence. Initially, they could be programmed to reach a specific and final developmental level. Later, he created an algorithm enabling the bios *themselves* to determine the level which they desired to reach. In other words, they acquired autonomy.

From the 27th century onwards, the number of bios grew rapidly. They were used in industry, domestic and public service, the military, and all areas of the economy. They were classified accordingly. But then, Prasad's revolutionary invention of the ***autonomous bio*** meant that bios were no longer *assigned* to a specific class. Instead, they *applied* for whichever classification they aspired to, like human job applicants. For example, bios with a high empathic level gravitated to education and socialization. Others might volunteer for military service.

By the end of the 30th century, there were 3 billion bios. Of these, two thirds were located on Terra, while the rest worked elsewhere in the solar system. Recall also the distribution of humans: Seven billion of them lived on Terra and two billion elsewhere. These distributions were the authorities' intention, for two reasons: (1) security: there always remained a distant theoretical possibility of bios coalescing into a ***social class***, hostile to humans. This danger was minimized by dispersing them as much as possible. (2) humanitarian concerns: since extra-terran conditions were far more arduous than those prevailing on earth, it only made sense that bios would bear the brunt of those hardships.

B) Energy: Recall that Hispaniolans had relied on dirty nuclear energy throughout the first half of the third millennium, at an appalling cost to public health. As Hispaniola began to recover, it also began to make more serious efforts to wean itself from nuclear energy. After the ***Great Awakening***, Hispaniolan scientists took over the lead from ACPA in Super-Quantum research and in (APM)Anti-Particle Mechanization.



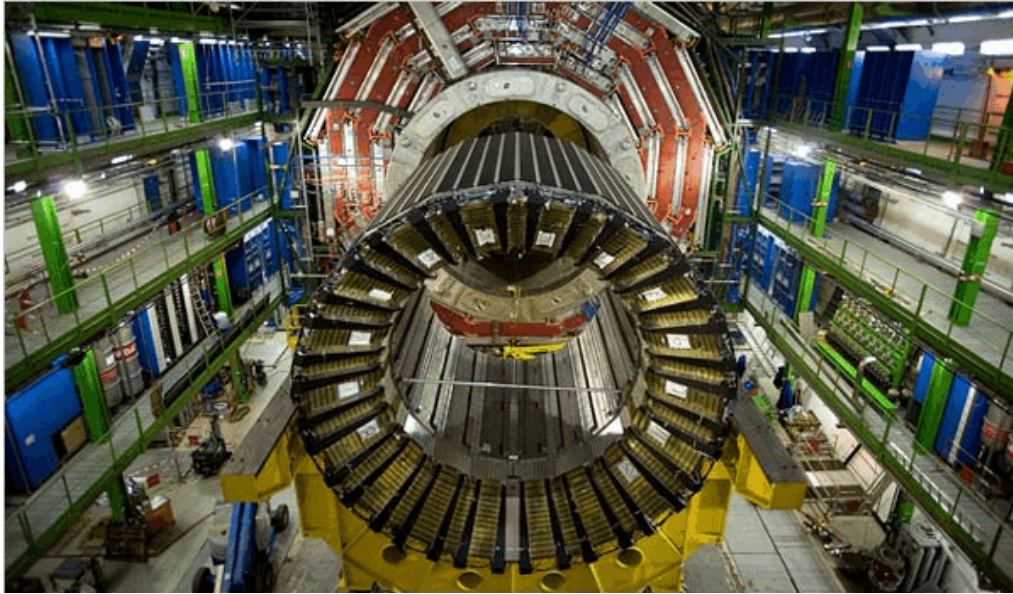

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Finally, in 2688, *Drandus Iberius Mescalonex* and his team of researchers at *Cordoba Exact University* (Argentina) discovered a method to harness anti-matter energy into controllable and portable packets - now known as *anti-matter reduction*. The Hispaniolan government proceeded immediately with a massive program to develop a vast network of anti-particle centrals across the Continent. Between 2691 and the middle of the 28th century, two hundred and fifty such power plants were built, in time totally replacing nuclear energy. Dr. Mescalonex headed up the *Federal Anti-Particle Administration (FAPA)* until his death in 2751, at age 101. Sadly he did not witness the decommissioning, in 2762, of the last Hispaniolan nuclear power plant, in Nunavut.

In time, the rest of the world followed in Hispaniola's denuclearization footsteps. Over the next two centuries, the country exported trillions of solars' worth of anti-particle reduction technology and assistance to other nations on earth and to extra-terran settlements.

C) Terran Mobility: As we saw in Chapter Five, the first half of the third millennium witnessed a great decline in Hispaniolan mobility, due to oil depletion, technological decline and extreme deterioration in public safety. This situation was reversed during the second half of the millennium.

Prototype of Hispaniolan Anti-particle Power Plant



To be sure, the population did not return to the modes of locomotion which had rendered humanity so mobile in the 20th and 21st centuries, while nearly destroying itself and the environment in the process.

During the lean centuries preceding the *Great Awakening*, Hispaniola had relied, of necessity, on transportation forms that were environmentally friendly and at the same time seemed more primitive. For example, there was a great increase in two-wheeled traffic at the expense of four-wheeled vehicles, lighter-than-air flight at the expense of heavier-than-air flight, man-powered vehicles at the expense of motor vehicles, even a revival of coal-powered steam engines at the expense of diesel locomotives. And all of this was accompanied by a decline in the overall volume of traffic - both local and long-distance.

The revival of Hispaniola as a technologically advanced society did not mean a shift to fundamentally new modes of transportation, much less a return to 21st century-style cars and airplanes. What happened, instead, was the enormous refinement of several of the environment-friendly forms of transportation which had superseded the prevailing 21st century modes.

From the 26th and 27th centuries onwards, Hispaniolans experienced a vast increase in the overall volume of traffic on earth, both surface and airborne. For private, short-distance mobility, people often used small two-, three- or four-wheeled vehicles powered by small magnetic generators. Some of these remained strictly surface vehicles. They were called, quaintly, "*plat movors*," and they were used largely by the poorer people. But most private vehicles had three-dimensional capability, up to an altitude of three hundred meters.

Bigger vehicles used for larger groups or for merchandise, privately or publically, were

also of both kinds - surface-bound, and with airlift capacity. While air traffic was faster, surface traffic was cheaper. Both sorts of vehicles had electronic collision shields which reduced, although did not totally eliminate, traffic deaths and injuries.

While most traffic was rapid, ranging from twenty kph to several thousand kph, lighter-than-air dirigibles remained in use when haste was not essential, e.g. for leisure.

Humans did not drive, steer, fly or conduct vehicles. Vehicles were either entirely driverless, or controlled by bios, or pre-programmed, or controlled by devices located along their trajectories. The latter was the general rule for public transportation.

Finally, a great deal of mobility was virtual. As that technology improved, more and more people reached their destinations via *Virtugo*.

After the Great Awakening, Hispaniola had prevailed upon the community of nations to re-established a universally accessible worldwide web, one which would include extra-terran sites. This required the creation of the *Universal Access Network* (UAN), of which *Virtugo* became one of the most popular applications. During the 28th and 29th centuries, both the number and the quality of destination sites increased enormously. Millions enjoyed virtual travel which, in some cases, was barely distinguishable from physical mobility. Of course, the highest quality virtuttravel was also the costliest.

D) Space mobility: The second half of the millennium was an era of fervent solar exploration, and of settlements in many parts of the solar system, spearheaded by Hispaniola. This mirrored, on a gigantic scale, what had happened on earth from the end of the 15th century to the beginning of the 20th, when Europeans fanned out over the globe, first exploring its farthest recesses, then overpowering and Westernizing the entire planet.

To be sure, the vastness of the solar system was not amenable to comprehensive colonization within half a millennium, as the earth had been. Even at the turn of the 4th millennium, only 10% to 15 % of the solar system could be said to enjoy some sort of human presence. That is, humans had visited about 90 of the roughly 600 bodies with a diameter in excess of 400 kilometers. "Human presence" ranged from settlements of hundreds of thousands (E.g. Mars) to lone scientific research stations - for example on some of the asteroids in the Kuiper Belt, three to five months from earth using the fastest space ships.

* * * * *

As we saw, it took Hispaniola several centuries to catch up in the space race. Even though the Confederation's great ancestor - the USA - had been the world's uncontested space pioneer in the 20th century, by the 22nd century Hispaniola no longer played a role in space exploration. Between 2150 and 2600, ACPAn countries - primarily China - possessed by far the most successful space program, while Eurabia (including Russia) and India also exerted some effort in that direction.

The huge international space station *Guizhou II* was completed in the second half of the 22nd century, ACPA picking up the lion's share of the responsibility, and Eurabia, Russia and the UIA providing assistance. This became (1) the platform from where ACPA functioned as traffic cop for the world's thousands of satellites, and (2) the launching pad for deep space exploration

and colonization. By 2250, ACPA's Martian colony had grown to a population of nearly one million. In addition, it had also established functioning colonies on two of Saturn's moons - Titan and Shen Kuo.

Yet, ACPA's efforts failed to pay off. The hope had been that space colonization would help (1) as an escape valve for excess terran population and (2) as a source of raw materials - replicating the ways in which colonization of the world had benefitted Europe during the 2nd half of the 2nd millennium. This did not happen. For example, Titan's rich hydrocarbons could not be profitably shipped to earth, as it cost more to transport the merchandise than the value of the cargo itself.

The Martian colony's population peaked and stabilized at 1 million around 2250, after which it began to decline. The problem was that ACPA and earth's other governments used the Red Planet more and more for the manufacture of environmentally damaging products (e.g. batteries, air conditioners, refrigerators, laser-makers, etc.) and as a disposal site for the earth's worst waste products, for example nuclear waste. The Martian death rate rose, and immigration ceased.

Travel to Saturn's two colonized moons was also problematic: Space ships were exposed to fierce solar flares and proton and particle storms bombarded them with heavy and lethal radiation.

Thus by the 24th century, ACPA's (and the world's) space programs were stagnating and retrogressing. In 2459, the Beijing government began work on a new space station - ***Guizhou III***. This was to be a more modest undertaking than the now obsolete and decommissioned ***Guizhou II***, serving primarily earth's communication needs. However, progress was slow, and the station remained unfinished and unusable even at the turn of the 26th century.

* * * * *

Meanwhile, Hispaniola experienced its Great Awakening. Much of the rebirth was a resurgence of scientific research, including space research. By the 2520s, Hispaniolan scientists resumed building space stations. At first, these were joint international ventures, usually with ACPA. Then, the rising Western superpower increasingly took over sole ownership of most of the new stations it built. The stations had the same quadruple goals as those of earlier efforts: (1) communication, (2) space exploration, (3) extra-terran mineral exploitation, and (4) space colonization.

During the 2550s, Hispaniola took ***Guizhou III*** out of the hands of ACPA, which was unable to complete it. Ten years later, the vastly expanded station, renamed ***Alcantara*** - opened to inter-planetary traffic. It had six space ports, and it was initially used primarily as a launch platform for settlers and cargo to the most important destinations, namely the Moon and Mars.

Hispaniola's Alcantara Space Station, completed in 2565, could accommodate six daily interplanetary launches



Until the beginning of the 27th century, most other space probes, manned and unmanned, were launched from Baikonur and other earth-bound space ports. By the middle of that century, three additional large space stations were built, all designated as international, but largely run and controlled by Hispaniola. These were needed for the growing number of settlements, research stations and colonies throughout the solar system.

Before the conquest of the solar system could begin in seriousness, two problems had to be resolved: (1) radiation and (2) speed.

As I mentioned earlier, it was the first of these problems which stymied ACPA's space program in the 23rd and 24th centuries. However, during the 26th century, Hispaniolan scientists at *Cordoba Exact University* made rapid progress on this front. Finally, in the 2570s, they developed an electro-magnetic shield which warded off 99% of the dangerous particle radiation

affecting space travelers. Now, terrans were at last in a position to begin large-scale extra-terran mineral exploitation.

Recall for example, that Japanese scientists had already discovered *pure* lithium on *Io* as far back as 2070 - a substance which does not occur on earth. In addition, *Io*'s riches also included large deposits of uranium and tungsten. Tungsten's extremely high melting temperature makes it uniquely useful in electronics and in machinery. Lithium is an important component of polymers and other compounds.

Speed was the second challenge: By the middle of the 27th century, Hispaniola's *Artemis*, the fastest in its fleet, could reach 300,000 kph. Recall that ACPAn ships had already reached such a speed nearly 400 years earlier, using a proton reactor. Now, all of earth's spaceships were equipped with a vastly improved version of the Proton reactor, enabling them not only to reach ten times the speed of the USA's 20th century space shuttle, but also to carry hundreds of passengers and cargoes up to 50,000 tons.

During the following three centuries - from the middle of the 27th through the middle of the 30th centuries - there was a significant increase in space exploration, and in the number of permanent bases and colonies in many parts of the solar system. Initially, Hispaniola played a preponderant role in this, but the effort became increasingly global.

By the end of the millennium, there were still separate links between some individual nations and their extra-terran colonies. For example, the two large bases founded on Saturn's Titan and Shen Kuo still formally belonged to the ACPAn Federation, as did ACPA's *Hunan* colony on Mars.

Similarly, the Martian colony *Amerigo* was an official province of the Hispaniolan Confederation, as were the provinces of *Nova Terra* on Saturn's Titan, the Riveria and Jonasi colonies on two of Uranus' moons, plus space stations orbiting Jupiter's Callisto and Ganymede, all of Ceres in the asteroid belt, and a dozen others.

However, a majority of the settlements and incorporated entities throughout the solar system were under the authority of the UTO, i.e. global terran jurisdiction.

* * * * *

Despite earth's growing penetration and control of the solar system, interplanetary travel remained cumbersome. For example, the average one-way trip to Titan and Shen Kuo still took nearly half a year (see Table Seven), using the fastest proton engines available.

Near the end of the millennium, Hispaniolan space engineers succeeded in building an experimental engine which used anti-matter reduction. This had the potential to increase the speed of mechanical space travel tenfold, to approximately three million kph, or .3% (one third of one percent) of the speed of light, and one hundred times faster than America's space shuttle had been during the 21st century.

Had science been able to harness anti-matter technology for general space travel, Solaria would soon have become organized, populated and a unified social system. Table Seven gives

examples of the time required to reach some solar destination, using a proton engine and antimatter engine. But this was not yet to be.

Anti-matter technology might even open the door to extra-solar travel to neighboring stars. During the 2960s, scientists at the Tibetan Omega Institute established a galactic communication model which enabled them to virtually visualize and analyze the Milky Way's galactic core, at 50,000 light years distance from Solaria. However, physical inter-stellar travel remained an impossible dream.

Table Seven: late 30th century travel times to selected destinations, using proton and antimatter technology

Destination	300,000 kph proton engine	3 million kph Anti-matter engine
1 Astronomical Unit (AU)	3 weeks	2 days
Moon	1 hour	1 hour
Mars	3 weeks	2 days
Jupiter	3 months	1-2 weeks
Saturn	6 months	2-3 weeks
Uranus	1 year	1.1 months
Kuiper Belt	3.5 years	5 months
Proxima Centauri	15,000 years	1,500 years

Thus, by the dawn of the 4th millennium, earth's ships were criss-crossing the solar system with some regularity, and humanity had established a permanent presence on many planets and moons. However, even inter-planetary travel within the system remained cumbersome and expensive.

E) Archaeology: As Hispaniola and the world moved into the future, they also delved deeper and deeper into the past. Recall the momentous discoveries of Egyptian archaeologists in the beginning of the 25th century. Remnants were found of superior civilizations that had existed on earth more than 40 million years ago. The species had lived in the Arabian peninsula. It was classified as a branch of the *para-hominoids*, a group related to, but distinct from, the much later *homo sapiens*. Their civilization became known as that of the *Paradelphians*.

From the 26th through the 30th centuries, building upon the work of United Islamic scientists, Hispaniolan archaeologists fanned out over the world in search of additional ancient civilizations. Para-hominoids were discovered in several parts of the globe, and each discovery pushed back the dawn of civilization by millions of years.

For example, in the late 28th century, remnants of a society were discovered at the bottom of the Indian Ocean between Tasmania and Antarctica. It was estimated that this culture existed an astounding 250 million years ago, when Australia and Antarctica were still connected, as part of the super Continent Gondwana. Therefore, it was given the name *Gondwanan*. Evidence of Gondwanan society did not consist of bones, as those had decayed long ago. It consisted of highly sophisticated artifacts made of an unknown metal compound containing *cerium*, yet neither flammable, nor prone to oxidation, nor to radioactive decay.

Clearly, the Gondwanans were in some ways more advanced than 27th century humanity. Perfectly preserved holograms were discovered, depicting a race of hirsute, sturdy, very large parallel humans. Their technology included air travel, space travel and electronic communication. Their physiology was adapted to the region's extremely low ambient temperature. Records revealed that the Gondwanans' body temperature was 30 degrees Celsius, and their heart rate at rest was 35.

Another ancient civilization which was discovered during this period (there were several more, later), was that of the *Mid-Jurassics*, as they became known: They, too were unearthed from the bottom of the sea - the Atlantic Ocean in this case. The Mid-Jurassics were estimated to have lived about 175 million years ago, before Africa and North America began to drift apart.

As the number of such discoveries grew, it became more and more apparent that during the thousands of millions of years of the earth's past life, there had been many civilizations rising and falling - some lasting hundred times longer than our own current human civilization has lasted thus far (a mere 15,000 - 43,000 yrs, if one includes Cro Magnon). The 64,000 dollar questions were: Why had *every* single ancient civilization eventually perished? And: was this fate inescapable, and therefore also in store for 31st century humanity?

While no scientist was yet able to answer the first of these questions, a majority of scientific opinion tended to answer the second one in the affirmative: Most socio-historians were *neo-Sorokinians*. That is, they subscribed to a revised cyclical theory which had originated in the 20th century with the Russian-American sociologist Pitirim Sorokin. According to this view, social evolution proceeded through cycles, and it was not upward. Sorokin himself identified three stages - (1) idealistic, (2) ideational and (3) sensate (See Chapter 8). The neo-Sorokinians made substitutions and additions to these stages, for example inserting the (4) Spartan, (5) high-tech, (6) post-modern, (7) green, and (8) fatal stages. However, there was agreement that stages succeeded each other in a cyclical fashion, each to occur repeatedly in the course of history, and that growth was inevitably followed by decline, which in turn led to renewal. The momentous archaeological discoveries of the late 3rd millennium provided much empirical support for this.

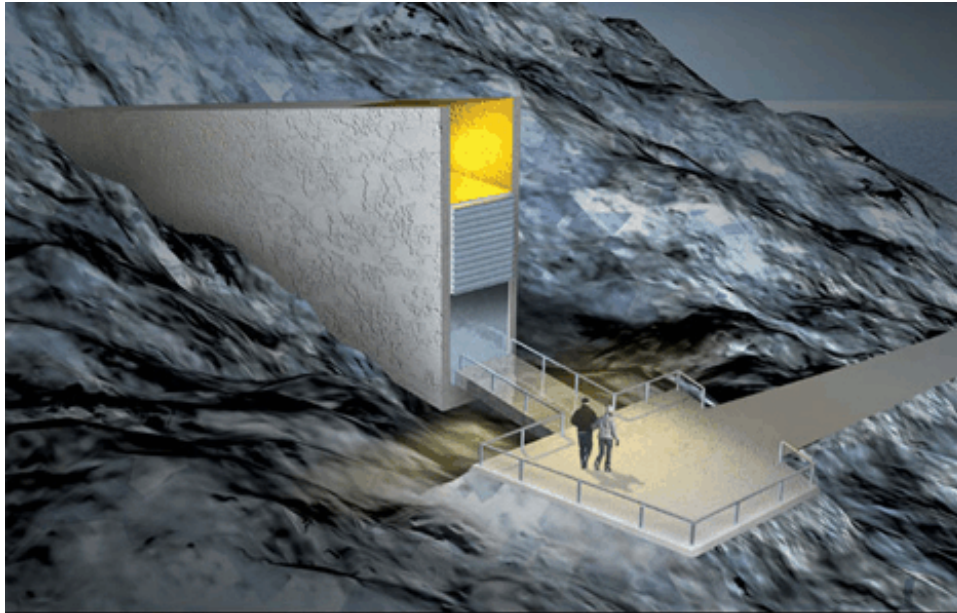
However, a minority of scholars did not agree: Lhasa's Omega Institute, and its growing number of chapters worldwide, had evidence to suggest *upward* historical evolution. While hominoids often regressed, the net trend was forward. In 2837, Three Omegan scientists of the Greenlandia Chapter did an *MQ* (Moral Quotient) analysis of a number of para-hominoids, including paradelphians, Gondwanans, Mid-Jurassics, as well as several of the human civilizations identified by the 20th century British historian Arnold Toynbee. Their calculations proved that the MQ increased by an average of 27% per millennium, and that the progression was geometric, not rectilinear.

F. Population and Public Health: By the 26th and 27th centuries, Hispaniolan medicine had made enormous progress. The health of the population benefitted from several factors: It had spent several centuries in a primitive but green, horticultural and environmentally friendly environment. Of course, there had been a nefarious reliance on dirty nuclear energy, with all the attendant horrors for public health. However, even that had, in a perverse way, fortified the population, through natural selection, strengthened resistance among the survivors, and a few positive mutations. Then, too, much had been learned from the highly developed holistic medical sciences in the Middle East and India.

After the Great Awakening, Hispaniolan scientists moved even further. Public and individual health were fused in a three-dimensional holistic unity, comprised of the conscious bodies of the collective. Health and illness were group phenomena, and they were manifestations of *shared* conscious chemopathy. All treatment was group-based, and all treatment required communication.

Protivir, *Imunovir* and various other aids had been perfected into *variable* substances able to adapt to the specific social and spiritual situation of the moment.

A Outpost Shelter on Hispaniola's Uranus Colony of Riveria



As a result, public health, longevity and mortality improved vastly. By the end of the 29th century, Hispaniolan infant mortality was under 1 per 1,000, and average life expectancy rose to 128, with some asexuals living beyond 200 years. Although the birth rate remained low, the population was expanding due to the very low rate of mortality. This was one major impetus behind Hispaniola's aggressive program of space colonization.

Space colonists faced special challenges. Life on the frontiers of Titan, Riveria, Jonasi, *Da Liu Ren* (a recently discovered and surprisingly hospitable satellite of Jupiter's), Ceres and even Mars was often rugged, requiring super-human capabilities. Genetic science came to the rescue. Experimental subjects were exposed, in the laboratory, to genetic alterations that permanently changed some of their basic autonomic functions such as heart rate and body temperature. Men were given heart rates of 25 and temperatures of 28 degrees centigrade. Their physical stature was also enlarged to over 2 meters and 130 kilograms. Through cloning, the experimental subjects were multiplied a thousand fold.

A special project dubbed *Bioplan* approached the bio population in a similar way. A new breed of exceptionally strong and resistant bios was manufactured, specially designed for space colonization. It must be remembered that bios, while more resistant to sickness than humans, were nevertheless not fully immune. Hence, much of human medicine also benefitted that population.

4. Culture, Education and Civilization: As we saw in chapter five, the intellectual revolution spearheaded by the likes of Drs. Adriana and Isabel Cruz, and the Great Awakening, put an end to Chandrism, to the Interweb Habilitation Verification Method. (**IHVM**) and to the other obstacles to progress under which Hispaniolan society had chafed for several centuries.

Few people made a greater contribution to the modernization of Hispaniolan science than Dr. *Yo-jung Chen*, who founded the *New School* in 2612. Chen was born in Fujian province (China) and educated at the *Hebei University of Quantum Physics*. He came to Hispaniola to establish and to oversee the first Hispaniolan Institute for Quantum Physics, in Boston. Within a decade, the Institute made rapid progress in sub-atomic and particle physics, in experimental applications to faster-than-light motility, in anti-gravitational force fields, and in anti-matter reduction research.

Such advances in physics would not have been possible without the modernization of Hispaniola's entire educational system, and of the psycho-cosmological paradigms dominating science. The men and women who worked at the New School, and who soon became the models for scientists throughout the nation, examined classical Chandrism - for example the Buddhist Dharma and the writings of Krishnamurti - with a new, critical eye. They re-interpreted and modernized many of the sources.

This was reminiscent of the fate which befell Aristotle after the European Renaissance of the 15th century: At that time, for more than a millennium, the ancient Greek scientist had been incorporated into the Catholic Church's canon, in largely erroneous ways. In the 15th century, Aristotle's contributions were reappraised and corrected, not rejected along with the innumerable errors of Medieval Catholic dogma.

Similarly, 27th century Hispaniolan scientists re-examined all aspects of Chandrism, modernizing many. As we saw in chapter five, the Zen law of experiential subject-object equivalence was confirmed, the errors of fatalism, pre-destination and post-Freudianism were identified, Ken Wilber's discoveries were preserved, Darwinian evolutionism was rehabilitated and advanced, the theories of the 20th century French cosmo-evolutionist Teilhard de Chardin, and the 18th century Scottish skeptic and empiricist David Hume were verified.

Human Group Mind



Bio Group Mind



Of all the scientific fronts, the greatest advances were now taking place in the field of socio-spirituality. A rich new technology was developed, enabling individuals, groups and bios to communicate with a far higher degree of accuracy than had been deemed possible a century earlier.

Group disciplines inspired by such ancient practices as Yoga and Tai Chi were developed for the stimulation of *empathetic introspection*. Key to communicative effectiveness was proper role allocation. In other words, groups determined their members' intersubjective coefficient, and located each member in the group's social structure based upon that coefficient. Of course, role allocations were highly fluid, both in ephemeral groups and in long-term families. Group identities were intersubjective, satisfying both collective and individual functions and emotions.

As time progressed, the psycho-social differences between humans and bios diminished. By the 29th century, most groups integrated both types of members.

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Equally important to the revival of science as an essentially *communicative* process was Hispaniola's reform of its communication *media*: as we saw in chapter five, during the first half of the 3rd millennium, the country's Spanglish had become increasingly concrete, phonetic and ideographic. This had done great damage to abstract thought and science. From the Great Awakening onwards, the country went into reverse. From the 26th through the 29th centuries, there were two trends:

(1) language and grammar became once again more complex and structured, something which was strongly enforced in the schools, making education increasingly exacting. Hispaniolan writing improved a great deal. That highly evolved version of Spanglish became by far the most efficient medium in the world, as it was based on the abstract 26-letter Western alphabet. The other two major world languages - Mandarin and Arabic - were handicapped in this respect.

(2) For scientific discourse, a new mathematized form of language emerged, based on the binary system.

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During the 2nd half of the 3rd millennium, the concept of recreation, in contrast to work, became limited to fewer and fewer activities. One of these was space tourism, a thriving business on which the wealthy spent large sums. Some of this was high-risk adventure. Sometimes, an extended space journey could have unanticipated consequences. Some travelers returned from distant destinations such as Saturn's Rhea (a highly inhospitable and dangerous environment), Uranus' Jonasi or Jupiter's Io (another high-risk place) in permanently altered states, experiencing for example a large and permanent increase in α brain wave activity at the expense of β waves, and with a totally changed social orientation.

One of several such cases occurred in 2978, when a dozen executives of the biochemical sponsorship corporation went on a three-month recuperative journey to Callisto. Upon their return, they had undergone unrecognizable psycho-physical changes. Their language and expressions were dominated by right-brain activity - to the total surprise of their families and of their associates. Empaths failed to determine the exact cause of this metamorphosis. Some attributed it to exposure to the residual anti-matter traces surrounding Callisto. Others suspected neutrino radiation, which tends to be particularly strong in the vicinity of that satellite.

A psycho-biologist by the name of *Drdus. Alvaron Sr.*, associate at the *Californian Exact Instituto*, proposed a different cause: No other destination in the Solar System involved as high a speed as Callisto. Average solar travel speed was 300,000 kph, using the standard GEN17 Proton engine. However, the approach to Callisto required this to be raised threefold, for a period of three hours, due to a slingshot effect around Jupiter required to reach synchronicity with the satellite.

Drdus. Alvaron suggested that this elevated speed was the cause of the passengers' cerebral transformation. Moving briefly at nearly three million kph, their ship reached one third of 1 percent of the speed of light. This may have been enough to create sufficient time dislocation in their synapses...

Were Alvaron's diagnosis to be confirmed, this would present a major challenge in future centuries, when humanity would attempt much higher speeds, in its continuing quest for inter-stellar travel.

Another activity which lingered as a "leisure" activity was *probing*: Recall that for centuries this nefarious business had lured millions of despondent Hispaniolans into poverty, serving primarily as a form of taxation under the cloak of entertainment. Fortunately, by the 27th century, probing's popularity had declined a great deal. It survived only among some marginal populations in outlying regions such as Patagonia and the Two Yukons.

In general, the distinction between work and leisure became increasingly blurred.

During the dark days preceding the Great Awakening, economic necessity and the harshness of life had perpetuated “work,” as something unpleasant, obligatory and necessary. However, from the 26th century onward, work and leisure became increasingly undistinguishable, not only for a privileged class, but for a majority of the population.

People increasingly engaged in a generic activity called *creatione*. To know someone well meant knowing his/her creatione. There was precedent for this. For centuries, artists, musicians, athletes, group empaths, dancers, policy wonks, horticulturalists, cultural engineers, communication modernizers, Interweb specialists and many others had enjoyed doing what they liked to do and enjoying comfortable lives doing so. But they were a privileged minority. Now, as Hispaniolans approached the end of the third millennium, the merger of the creative, productive and social processes became universal.

A good example is *sand-sporting*: A major global need was the environmental restoration of large areas which had become eroded, degraded and desertified during centuries of pillage and neglect, both in the Western Hemisphere and in other continents, e.g. in Africa. This task now became the full-time *creatione* of millions of people. Fanning out over the Continent and outside, these millions enjoyed comfortable lives, adventurous travel, great social gratification and enviable status.

The *creatione* was organized as a sport. It involved competing teams of creationists. It moved forward by elimination, with competition ascending from the most general level to quarter-finals, semi-finals and finals. Points were awarded for performance - as measured by environmental results in the jurisdiction assigned to one's team - and eventually bronze, silver and gold medals to the winners. The winners enjoyed a status comparable to that of Olympic champions in such traditional sports as discus, javelin, cycle sports and balloon sports.

Perhaps the most revolutionary new form of *creatione* came with late 28th century transformational technology. Recall that *virtulife* existed since the 21st century, and that it was gradually perfected by ACPA scientists to the point where high-quality virtual experiences became available, at least to the affluent. From the 23rd through the 26th century, this technology remained stagnant.

However, by the mid 2600s, Hispaniolan information candidates took over the baton for this line of research. They made rapid progress in the development of transformational programs enabling a person to penetrate deeply into a mechanical-existential system, and to operate it internally. There were two major limitations: (1) internal operations were of short duration - a maximum of 30 minutes or so. (2) no outcome of internal operations could be externalized to the “real” world. Internal operations were, of course, infinitely superior, as they were only hampered by the limits of time and information, not four-dimensional reality. However, their products remained strictly internal. Although they could be re-visited at will.

This is the obstacle which was finally overcome during the late 2700s. Much of the credit, once again, goes to communication scientists at *Cordoba Exact University*. These men and women developed a transformer which made interchangeability possible. That is, it became possible to externalize internal operations and their outcomes into the outer field. Interchangeability between the two fields was achieved under controlled conditions with several subjects in the Cordoba research labs. Subjects operated internally, while remaining hooked up and experiencing Stage Five (REM) sleep, one of intense brain activity. At first, it was not possible to effect penetrations of longer than one hour, but this was gradually lengthened. There was a major risk, namely that of the subject not coming out, and the probability of such

accidents was directly related to the length of the internal operation. The longer a subject stayed in, the more difficult it was to return to the entry/exit portal. In time, the number of losses declined, and internal “visits” of longer, yet safe, duration became possible.

Once transformation technology became relatively safe and efficient, millions flocked to this new area of *creation*. Millions enjoyed the fruits of internal activity, which they brought back with them into the physical world. What’s more, since *replication* was one of the many functions that were internally available, this, too, became available in the external world. However, as always, there was little equity in the way in which these benefits were shared, as replication required a great deal of electro-magnetic energy, only available to the very rich, and to corporations and public institutions.

Finally, a growing number of people *chose* not to return. This became a thorny issue requiring complex legislation. For example, it was important to incapacitate criminals who hoped to escape through transformation.

8: 2600-3000: THE WORLD

During the second half of the millennium, there was a major re-alignment of the world’s countries and regions. After the *Great Awakening* of the 25th century, Hispaniola surged back as the world’s technological, political and economic leader. Others hobbled along, and some lagged far behind.

The countries making up ACPA did not fare too poorly. They remained Hispaniola’s “special relationship,” the way the United States had maintained a special relationship with Britain from the 19th through the 21st centuries. That relationship was the foundation upon which the planet progressed. While the overall relationship between the Western Hemisphere and ACPA remained excellent, some member states - for example Japan and Korea - had particularly strong ties to Hispaniola (See Section Three of the present chapter).

India remained an equally helpful, loyal and responsible member of the world community. However, that vast subcontinent’s political and economic problems remained daunting. Its proximity to failed states such as Kashmiristan, Pakistan and the remnants of the IRI in Central Asia caused it great duress, and endemic poverty continued to plague its immense population.

Eurabia also faced growing economic problems, mostly self-inflicted. Eurabians became increasingly secularized, which was a good thing. Their reduced nationalistic militancy was a boon to Hispaniola, which welcomed a friendlier and less shrill continent. However, the Eurabians also became indolent and hedonistic, which did not benefit them.

As always, the world’s rearguard was made up by Africa. However, as we shall see in a moment, there was, perhaps for the first time in history, a ray of hope for the dark continent. The world’s gradual unification facilitated Africa’s integration into the global system in a fashion entirely different from the exploitative relationship which it had suffered during 21st century “globalization.”

Table Eight provides a rough indicator of the different levels of advancement enjoyed in various regions of the world during the late 29th century, as measured by Life Expectancy.

Table Eight: Life Expectancy in Selected Parts of the World, late 29th Century

Area and Countries	Life Expectancy
1. Greenland	129
2. French and Atlantic Hispaniola - including the former territory of Canada	128
3. ACPA	125
4. Hispanic Hispaniola - including Mexico, Brazilia, Santa Cruz and Patagonia	121
5. Western and Northern Eurabia - including Scandinavia and Germania	115
6. Southeast Asia - including Thaima	109
6. United Islamic Alliance - including Lybia, Egypt and Arabia	103
Indosenia	99
India	93
7. Islamic Republic of Iran	88
11. Eastern Eurabia - including Russia	87
12. Southern Africa	79
13. Pakistan and other failed states	58
14. Central Africa	52

Now for some specifics about each of the world's major regions - keeping in mind that by the end of the millennium, the planet was rapidly moving towards global integration and a unified world government.

1. Eurabia: By the turn of the 27th Century, Eurabia and its adjacent dependencies were still affluent, and they enjoyed excellent universities and medical services. While the vast majority of the people were nominally Muslim, the culture was in fact largely secular. The thousands of mosques dotting the Continent were centers of social, recreational and cultural life rather than devout worship. Most had leisure halls where concerts, dances and sensory sessions were held, attended by hundreds or even thousands of people.

For example, the Great Paris *Al-Masjid Mosquée*, now 700 hundred years old, was expanded to accommodate 300,000 people, second in size only to *Al-Masjid al Haram* in Mecca. Several large-scale festivities were held there every year, including *Eid Al Adha*, and *Eid ul-Fitr*, the conclusion of Ramadan. Because the Ramadan's date shifted every year, the *Paris Grande Mosquée* was equipped for every season. For example, when *Eid ul-Fitr* happened during the winter, skating and snow bowling facilities were provided, and artificially maintained.

The month of Ramadan became a major holiday, during which people traveled and visited each other. During that month, the population of Paris swelled by hundreds of thousands

of relatives and visitors from the Middle East, North Africa and other Muslim regions.

Although most people no longer fasted during Ramadan, the authorities did not go so far as to organize lavish food festivals and athletic contests during that month, which would have been contrary to tradition. Those activities were reserved for *Eid Al Adha*, the great festival of sacrifice. Part of the festivities at that time were the *pan-Islamic games*, an international meet in which countries competed in athletics, music and communication skills.

These trends gained strength and speed during the following centuries. At a time when Hispaniola grew ever stronger and looked upward and outward into space, science and world unity, Eurabia became increasingly insular and inward-looking. Its institutions began to atrophy. Its people and its leaders focuses increasingly on the here-and-now, not on the future. By the 29th century, Eurabia resembled an impoverished vacation resort more than the world power which it had been at mid-millennium.

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As can be surmised from the above, Eurabians became both secular and hedonistic. The rules regulating marriage, family, sexuality, reproduction, and social relationships were totally rewritten. Two trends had to be reconciled: (1) a growing acceptance of alternatives to traditional heterosexual monogamy, and (2) Muslim practices. This meant that polygamy had to be legalized, as did homosexual marriage. Traditional Islam favored the former, while frowning on the latter.

In the end, the Eurabians worked it out, because their permissiveness trumped both Islamic reticence *and* monogamous tradition. Gay marriage had already been legalized by the Eurabian parliament during the 21st century. This was followed by a see-saw battle in which a coalition of conservatives and devout Muslims succeeded in annulling the law - temporarily.

During the 22nd century, the push was on for the legalization of polygamy - at least *polygyny*. After decades of haggling, parliament agreed on the following give-and-take compromise: Under the new family and marriage statute, one male was entitled to marrying a maximum of four females. In the early 2300s, one-on-one same-sex marriages were legalized again.

However, this did not sit well with Islamo-feminists, who began to campaign against the double-standard of polygyny. Their progress was gradual. Not until the end of the century, did the legislature open the door to legalized polyandry, at first permitting women to marry no more than two husbands. Furthermore, gays continued to be limited to one and only one marital partner. Finally, during the 2540s, women reached full parity, being henceforth permitted a maximum of four spouses, just like men. The final piece of the puzzle was added in the 2590s, when gays also acquired the right to marry multiple partners.

But by then, such legislation was academic, and only something fought over by the very few people who remained religious and attached to tradition. The overwhelming majority of the population forewent formal marriage licenses, and lived in a myriad of different group forms ranging from communal arrangements to bisexual groupings, from a-sexual to single-sex households.

Similarly, gender identity became fluid. Trans-genderism became increasingly popular, growing from an estimated 8% of the population in the 25th century to nearly a quarter in the 2800s. For many, "variant sexuality" (as trans-genderism became known) was a stage in the life

cycle. For example, a person might go through his first forty five years as a male and generate a child or two. Then, he would make the switch to the other gender, either permanently, or only to resume male identity a decade or so later.

The 25% of the population classified as trans-gendered in the 29th century included several million a-sexuals, i.e. individuals who classified themselves as neither male nor female. Further, gays made up nearly one third of the population. This included the categories of *permanent gays*, *developmental gays* and *alternative gays*. People who were actively and exclusively heterosexual made up roughly 40 % of the population - a plurality but not a majority.

An important profession was *therapeutic prostitution*. Training and diplomas for this were provided by a number of institutions. The curriculum included a strong psychological, biological and cultural component. By the 25th century, the practitioners of this profession - males, females and others - were politically powerful and economically well off. Their organization - *the International Sex Therapy Common* (ISTC), headquartered in Amsterdam - had 16 million members. However, during the next few centuries, as the Continent's resources declined, the profession suffered a great deal, as its members became the scapegoats for the frustrations of millions of men experiencing decline and misery.

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As the millennium progressed, Eurabia became even less child-centered than it had been during the 21st century. Its birthrate, already the lowest in the world back then, continued to decline far below replacement level. Until the middle of the millennium, much of the population deficit was made up by African Labor Transfers.

Unlike the African labor transfer policies of the IRI and the UIA, where those policies were euphemisms for slavery, the people imported into Eurabia fared better. They and their descendants became permanent second-class citizens. They were distinguished by their darker skin, their lower pay, their greater criminality, their low status and frequent mistreatment by the authorities and by the rest of the population. However, few of the "Afros," as they were known, desired to return - even those who had reached the financial and legal position permitting them to do so. Life in Eurabia remained far more bearable than in Africa, even for the second-class Afro.

However, from the 27th century onward, Eurabia could no longer count on Africa as a source of population replenishment. For one thing, its economy reached a point of permanent decline, with unemployment rarely dipping under 25%. The rate would have been even higher had job sharing not been the law of the land for over hundred years. Unfortunately for the Afros, however, they were excluded from job sharing programs. Furthermore, Africa itself also suffered population decline. Plagues, droughts, starvation and wars aggravated conditions on the dark continent. Thus, the population of Eurabia began to decline, as may be gaged from the following:

2450s: slightly over 650 million
 2550s: slightly under 650 million
 2850s: slightly under 600 million
 2950s: under 325 million

Note that the Continent almost managed to maintain a stable population until the 29th century, at which time it had declined by only two hundred million since the 21st century. Thereafter, however, the decline became precipitous.

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Eurabia might have weathered its cultural deterioration, had that not been accompanied by long-term economic weakness. One of the prime causes of this weakness was the growing African burden: During the 2nd half of the millennium, the dark continent turned ever more into a liability. Eurabia exhausted itself, attempting to integrate itself and Africa. From the 22nd through the 23rd centuries, the country carried out numerous peace-keeping campaigns in areas such as Somalia, Ubangi, Ruandi and elsewhere. While these naval and land operations cost significant treasure and many lives, they were bearable.

In time, however, Eurabia's African involvements changed. From the 24th century onward, the brunt of the Eurabian presence in Africa consisted of economic and medical assistance, plus long-term visitations. Most of Africa became so impoverished, weak and depopulated that it no longer required major military policing. Instead, the Eurabian government poured trillions of solars in a futile attempt to assist, to re-develop and to integrate the continent's economy with its own. Eurabians were encouraged through generous tax policies to invest in African businesses and real estate, to buy African products, and to spend work-stages there. Thousands of physicians spent years in the regions bordering the Sahel, and in other areas with critical public health needs.

The outcome was not as intended. Africa turned out to be a bottomless pit. African stage-returnees brought back with them new viruses. The duty-free import of African fauna, flora, agricultural and mineral products caused Eurabia major economic and health problems.

Expensive well-intentioned projects turned into massive failures and boondoggles. For example, the Franco-Arabian NGO *Medecine Topographique*, with generous federal support, established a gigantic health recovery camp on the outskirts of Abidjan, named *Grande Campagne*. As we shall see in Section Five of this chapter, this project was a long-term failure.

The same goes for other well-meant Eurabian African assistance programs, such as the *Eurafrican Ecological Manifesto*. This was an enormous effort to restore Africa's entire natural environment, including its fauna, its flora, its watertables and its arable lands. It remained part of Eurabian policy for six centuries - from the early 2300s to 2912. Such programs cost Eurabia dearly, and in the end, they all had to be jettisoned because (1) they were costly failures and because (2) the ruined Eurabian economy could no longer afford to support them. (See Section Five)

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As if long-term problems and decline weren't enough, Eurabia suffered what may be one of the greatest natural disasters in the history of humanity. This happened in 2727:

The global warming which began to affect the planet at the beginning of the millennium had turned into global *drying*. After having risen by nine degrees Celsius and peaking in the middle of the 21st century, the world's temperature stabilized, thanks to a reduction in carbon emissions. However, ocean levels had risen permanently by about one meter. This had dire consequences for the low-lying parts of the world (See section Six), including Flandria and the area formerly known as the Netherlands.

Over the centuries, that region successfully protected itself against the surrounding sea through a sophisticated system of dikes. This included the Delta Works at the estuary of the Rhine, the Maas and the Schelde, a vast complex of dams and automated steel docks and sluices, plus thousands of kilometers of concrete dams in other parts of the country, such as the

Hondsbosche Zeewering and the *Afsluitdijk*. Despite vigilance and constant upgrading, the facilities suffered long-term wear-and-tear. Some of the dikes became increasingly porous due to global drying.

On March 15, 2727, at a quarter past midnight, there was an earthquake at the bottom of the North Sea. While it only measured 5.1 on the Richter scale, the ensuing tidal wave was enormous due to the North Sea's shallowness. Traveling at over a thousand kilometers an hour, the wave reached the shores of the Netherlands within ten minutes. The Delta Works held, but the *Hondsbosche Zeewering* and the *Afsluitdijk* did not, and neither did several hundred other dikes which, altogether, protected a population of 11 million. Rotterdam and South Holland were safe, but Amsterdam and North Holland were flooded, as were the provinces of Friesland, Groningen, Drenthe, Overijssel and Gelderland, altogether 20,000 square kilometers with a population of 9 million. The collapse of the *Afsluitdijk* caused the unexpected flooding of the inland provinces. This happened when the Inland Sea, which had been created by the *Afsluitdijk* and which had been partially dried and reclaimed, was entirely flooded and filled by the onrushing North Sea.

The number of casualties was greatly increased by the fact that the catastrophe occurred at night. 185,000 people drowned.

Many of the victims were what the Dutch called "*allochtones*," that is, immigrants from the Middle East, from Africa and from South Eastern Europe. Most of this population was poor and resource-less, and its culture was not "water-friendly." That is, unlike traditional Dutch society, it lacked an affinity and an appreciation for water, water sports and water skill, such as swimming and boating. In short, many of these people were landlubbers who didn't even know how to swim.

In addition, the great flood of 2727 produced 7 million homeless people. About 4 million of these were sent to refugee camps in Germania, and over a million were repatriated to their lands of origin. It took most of the remaining population more than a decade to get back on its feet, and even a quarter of a century after the disaster, dozens of thousands of the victims remained homeless wanderers. It took the Eurabian Community until the beginning of the 29th century to rebuild the dike system and to reclaim and re-populate most of the lost land. Even then, some territory was lost permanently. For example the Wadden islands remained permanently submerged.

The Great Flood of 2727 - Flandria



2. Middle East: After the middle of the millennium, the two great Middle Eastern nations went in different directions. The United Islamic Alliance hobbled along as best as it could. It was served well by its rich scientific, educational and intellectual tradition. Its great cities - Riyadh, Jerusalem, Cairo remained major University centers, while also attracting much tourism. World's Fairs were held in Cairo in 2538 and 2602, and in Beirut in 2570.

The UIA was an elective monarchy, its President appointed for life by the elected legislature. Although the Western notion of strict Church-State separation was alien to the UIA, it was not a rigid theocracy, either. Government policies were pragmatic. The great nation was a reliable member of the United Nations, and of its successor after 2790, the United Terran Organization. It not only abided by these bodies' mandates, but also participated in its peace keeping operations, both on earth and in space.

Many of the world's great corporations were owned by or based in the UIA. By the middle of the millennium, the world's energy market was dominated by conglomerates largely owned and run by ACPAn and UIA boards of executives, with a smattering of Eurasians. The two largest of these were the United Islamic-ACPAn Energy Block and Sino-Arabian Minerals (SAM).

By the beginning of the 26th century, such companies were fanning out over the solar system to explore and to exploit the mineral riches of such bodies as the Moon, Mars, Io, Titan and Shen Kuo.

The UIA's Achilles Heel was the environment. The depletion of its natural resources and the global warming/drying were a double whammy which caused great hardship and growing poverty to its 600 million people. The Arabian peninsula suffered from growing desertification.

It was forced to import all of its food, and much of its manufactured goods. The populations of the Gulf States, Oman and Yemen declined to small, coastal agglomerations. The Riyadh government had growing budget deficits. It devalued its currency against the international Solar repeatedly - in 2648, 2702, and several times thereafter. The country's space program came to a halt. It depended on Hispaniola, ACPA and Eurabia for both its terran communication needs, and in its attempts to maintain a presence in space. During the 23rd century, it had established small colonies on the Moon, on Mars and on Saturn's Titan, in collaboration with China. However, two centuries later, it abandoned nearly all of its space settlements. It held on to an outpost on the Moon, for whose resupply and survival it depended on Hispaniola. As to its remaining settlers elsewhere in the Solar System, they were all absorbed by Hispaniolan, ACPAn, Eurabian and international colonies.

The major remaining sources of income were tourism, including sex tourism, and drugs. By the beginning of the 27th century, Hispaniola ceased to export vast quantities of marijuana and hallucinogens to the rest of the world. To fill the vacuum and out of necessity, the UIA developed a major hashish industry. By the 2780s, the Nile Delta was the world's primary producer of hashish.

This went hand in hand with a great increase in crime. Large organized, amphibian gangs preyed upon the government hashish farms, which were generally located along river shores.

In 2617, Sharia law was humanized, replacing capital punishment by amputation for many crimes. However, the government had to reverse this in 2781. The fight against the amphibian pirates required such draconian measures.

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While the UIA managed, somehow, to survive and to muddle through its economic reversals, the same cannot be said of the *Islamic Republic of Iran*. That state remained a theocratic garrison state, to its long-term detriment.

Remember that until the 26th century, the IRI was a powerful, feared, successful, militaristic empire. Back in the 24th century, when the IRI was at the peak of its power, Hispaniola had dared to oppose it militarily, with disastrous consequences (For example in the Battle of the Seychelles, in 2388). During the two and a half centuries that followed, few dared to challenge the IRI. The international community had little choice but to tolerate that regime's oppression of the peoples of Central Asia, its African slave trade, and its other aggressive foreign policies.

But it is in the nature of militaristic empires to eventually over-reach. The rate at which such empires crumble internally is proportional to the extent with which they expand outward and squander themselves in order to colonize others. There are few exceptions to this historical rule. Ancient Rome fell prey to it, as did the USSR in the 20th century. Some, such as the German Third Reich, went through the cycle with lightning speed, precisely because of their pathological aggressiveness. Even the United States of America came close to the tipping point of imperial over-reach, although it wisely pulled back from it.

Now it was the IRI's turn to crumble - after an imperialist run that succeeded for half a millennium. Officially, the Islamic Republic remained a theocracy. However, by the late 26th century, the population had turned cynical and skeptical. The power of the ruling *Mullahs* was

increasingly based on force rather than persuasion. The country was ruled by the iron fist of a military-religious complex. This complex ransacked the Iranian economy with its exorbitant military expenditures, its creaky bureaucracy, and its neglect of the most essential areas of economic and scientific progress: Space and its colonization, bionics, virtutech and mind-comm, all areas in which Hispaniolans and others were making rapid progress.

Furthermore, by the middle of the 24th century, the Islamic Republic had exhausted most of its mineral resources (oil and gas among them), and more and more of its soil became desertified and unfit for agriculture. The militant republic managed to postpone the day of reckoning for over a century through the aggressive exploitation of its vassal regions in Central Asia, in Indian Ocean rim regions, and in Africa. But the signs of internal decay were unmistakable. In 2516, A United Nations study estimated that Iranian per capita income was half what it had been during the 24th century, and half of that of ACPA and Eurabia at the moment.

Unrest began to grow - at first only among the vassal populations in such regions as Kazakhstan and Georgia. But in 2613, riots took place in Teheran. That year saw the foundation of a group calling itself the *Solar Secular Shia* (SSS). During the following two hundred and seventy years, the SSS evolved. At first it engaged in countless intellectual and armed actions against the ruling regime. Then, it managed to institutionalize itself as an opposition party - persecuted but not exterminated. In 2879, at long last - when the international community forced Iran to shed its vassal possessions and to re-establish itself as a downsized state - the SSS became the major ruling party governing the new secular and democratic republic.

However, the IRI did not go out with a whimper. During the 27th and 28th centuries, its relationship with the international community deteriorated. For many years, the international community's response to the IRI's slave trade, its support of Indian Ocean piracy and its aggressions in Central Asia were limited to moral condemnation. Among the two parallel world bodies - the Geneva-based UN and the Kyoto World Council - the latter had long been the more critical of the two, as the UN had long been biased in favor of the Islamic world. But by the early 2600s, the two international organizations were in increasing agreement with each other.

During the 2660s, the KWC voted unanimously to impose scientific sanctions against the IRI. An embargo was put in place, forbidding the movement of "intellectual and scientific personnel and subject matter into the IRI." Enforcement of the sanctions was tricky, requiring the physical control of traveling personnel and the inspection of all e-communication. To evade the latter, the IRI at times resorted to smuggling hard-copy documents. Enforcement of the travel ban on scientists fell largely to India and Hispaniola, whose air forces performed aerial inspections of IRI-bound passengers. ACPA countries - including China, Japan, Korea - took responsibility for information screening.

As a result, IRI scientific and war-making capabilities became even more stagnant. The regime focused almost exclusively on conventional weapons and on earth-bound technology. Its space program withered, focusing purely on military objectives. It possessed space lasers, space monitors, offensive missile systems and defensive shields, but it did not participate in space colonization or exploration. Instead, it imported needed mineral resources from exploited territories on earth.

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Drones Used by Hispaniola against the IRI



Then came the devastating war against Hispaniola, in 2752. Recall that the war was caused by the IRI's refusal to share the Baikonur space station with the international community, despite unanimous UN and KWC mandates (see Chapter Seven). The war became global in the sense that its fronts covered many parts of the world, and in the sense that the IRI was taking on the full membership of the UN and the KWC. But *de facto*, the two major protagonists ended up being the IRI and Hispaniola - with some minor assists from allies such as India.

The Iranians were technologically no match for the Hispaniolans. The latter's mechaforces - humans accompanied by bios and drones - made mincemeat of Iran's largely humforces. Hispaniola's use of electro-magnetic irradiation and ultra-sound alteration was sanctioned by the KWC, despite such tactics' high level of collateral damage. By the time human occupation forces entered the irradiated areas, millions of civilians were permanently altered. Most lived on, but with a much reduced life expectancy.

The shooting war came to an end in 2772. Time had come to rebuild the country, but this was something of which the local population was now utterly incapable.

For many years preceding the war, the IRI had been viewed as the "sick man of Asia," not unlike the Ottoman Empire during the late 19th century. Now, after 20 years of electro-magnetic warfare, that country was *literally* sick. It took a generation for the population to recover. The debilities inflicted upon the Iranians were not genetically transferrable.

Hispaniola - assisted by an international peace keeping force - continued to occupy vast parts of the IRI until 2790. Then, a few years before the turn of the 29th century, three things happened: (1), some stirrings of economic recovery were finally becoming noticeable, (2) the former IRI was finally and formally disassembled, and (3) the United Terran Organization emerged as a merger and a replacement of the former UN and KWC.

(1) The economic recovery was not impressive, but at least the region was no longer the wasteland it had been at the end of the war. Improvement was under way, because a new generation had replaced the one which centuries-old IRI policies and the war had destroyed.

(2) The former IRI was dismembered, downsized and renamed. The Persian area resumed its 21st-century identity - Iran, populated overwhelmingly by Persians. A dozen new units were created in the Middle East and in Central Asia. These units were jurisdictions rather than nation states. Borders were drawn on the basis of economic viability. Ethnic self-determination was not a major consideration, as the world was fast becoming federated, and nations were more comparable to the states within 21st America, than to the independent nations of yore. One of the new states was *Cosmia*, with Baikonur as its capital. During the fourth millennium, this would become the earth's number one space port.

(3) The pacification and re-development of the region was a long and arduous task. It took the international community the better part of the 29th century to overcome the region's devastation and lawlessness. Until the year 2800, the major authority in the region was an occupation force made up of Hispaniolans (50%) and assorted other dedicated UTO members such as India (25%), ACPA (15%) and a few others. Hispaniola chafed under this responsibility. It had carried the brunt of the load for half a century. At its insistence, the UTO created, within three years of its own inception, a true World Police. In 2801, the World Police went into action in the areas formerly controlled by the IRI, finally getting Hispaniola off the hook.

During the 29th century, the UTO, the World Police and a host of NGOs worked together to model the region and its new jurisdictions after Western economies and forms of governance. It was not until the 2980s that the last units of the World Police left Central Asia and the other areas formerly controlled by the IRI. By then, all remnants of theocratic totalitarianism were gone. Most joined the community of peaceful solar states, a community in which nationalism was largely a thing of the past, a federated global community in which the UTO functioned as a *de facto* terran government.

3. ACPA: China, Japan, Korea: Until the early 26th century, ACPA led the world in most respects. However, by the beginning of that century, East Asia's relative advantage began to decline. The reasons for this were twofold: (1): The continent faced growing environmental problems, and (2) its culture changed:

(1): China's centuries-long reliance on coal and on nuclear energy put a heavy toll on the environment and on public health. In the middle of the 26th century, China's life expectancy was 102 years, still the world's longest. However, the country also had one of the world's highest rates of pulmonary and respiratory illness, including lung cancer and emphysema, and ominously, its life expectancy was declining.

Now, the country's coal supply was approaching depletion. Some might have welcomed this. However, there were no easy alternatives on the horizon. The ACPA Space agency had long worked on importing the mineral riches of Shen Kuo, Titan, and its other space colonies, but to little avail.

Shen Kuo had abundant supplies of inorganic minerals such as Bauxite, Mica and Thorium. These could be harvested for electronics, as a *clean* nuclear fuel, for aluminum and for assorted other purposes, provided that they could be shipped to earth in large enough

quantities. But that was the rub. Transportation costs remained prohibitive, despite attempts at miniaturization. Furthermore, the accident rate for long-distance cargo ships was unacceptably high. Overheating, solar radiation and collisions with meteoroids took a very high toll. The cost of inter-planetary cargo was further increased by the high-risk wages required to attract people to sign up for these hazardous jobs.

Until the middle of the millennium, China and the rest of ACPA were in the forefront of APM (Anti-Particle Mechanization) research, hoping to gradually substitute anti-matter energy. However, East Asians had invested so much in traditional technologies such as nuclear power that they were wedded to them. ACPA's nuclear plants were much cleaner than those of Hispaniola. The incentive for retooling for anti-matter energy was not as strong as it was for the Hispaniolans.

Thus, by the end of the 28th century, Hispaniola had fully converted to clean anti-particles, whereas ACPA still derived over half of its energy from creaky old nuclear plants. Insofar as it was moving over to anti-matter, it relied - at great cost - on Hispaniolan technology, exports, and experts.

Global drying took a fearful toll on China. The Yangtze was so thoroughly dammed up that it became a trickle, compared to what it had been in the past: In the 21st century, the Three Gorges Dam had generated 100,000 gigawatts of electricity per year, a world record. However, the 600-kilometer long Yichang Lake it created gradually silted up, and by the beginning of the 25th century, Three Gorges Dam was decommissioned, as it had ceased to produce any significant amount of electricity. Instead, several other dams were built on the Yangtze, including Wudongde and Baihetan. Gradually, the mighty river's flow dried up. Its volume declined from 850 billion cubic meters in the early 23rd century to less than 150 billion by the early 2600s.

Drought took a fearful toll on the upper Yangtze region beyond Lake Yichang, which had practically dried up, as well in Mongolia, Tibet and the Gobi desert, whose size doubled. Eastern and Northern China experienced hunger and depopulation. The country increasingly depended on food imports from Hispaniola.

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(2): Along with economic deterioration came a cultural shift: During the late 2650s, a new movement emerged, attracting millions - ***Lau Laoism***:

Historians have conjectured that Lau Laoism was a reaction to ACPA's growing environmental problems. Its adherents turned away from the outward looking perspective which had guided Inter-subjectivism for over two centuries, and instead embraced ***Lau Laoism***. This was essentially a new version of ***Moksha*** and the Southern Chinese doctrines informed by the writings of Lao Tzu and Taoism.

For many years, the movement's leader was ***Lau Lin*** (2607-2718). She was the daughter of ***Drdus Lau Fai***, born in the Guangdongese (Cantonese) city of Hong Kong, in South China.

As a young child, she was raised by her father Fai and his consort *Madame Daiyu*. They lived at the Hong Kong space center until Fai accepted a 5-year assignment on terribly distant Shen Kuo (Saturn). Just getting there took nearly half a year. Lau Lin was 4 years old when the family left, 10 when they returned.

The experience was painful. Lau Lin and her family spent five years on Saturn's icy satellite. They huddled together with a few thousand colonists, hundreds of meters below the surface of a frozen hell. Surrounded by rugged terrans and unfeeling bios, they spent five years running the Bauxite, Mica and Thorium mines of that desolate body.

Lau's mother, Madame Daiyu, found their pioneering work meaningful, and she would have signed up for a second tour of duty, as the pay was very good. But her father, Drdus Fai, felt quite the opposite. The agency ruled in his favor, and in the Fall of 2617, the family and their constituents were shipped back to Earth.

Shortly after their return, Fai contracted with a second consort - beautiful *Tian* - while Madame Daiyu remained a member of the household, with all the legal rights of a first consort. Thus from age 10 onwards, Lau Lin had two mothers, who were as different as they could possibly be.

Unlike Madame Daiyu, Lau Lin's father Fai and the young new mother Tian were earth-bound and earth-oriented. Fai's disillusionment with space led him to a dualistic psychosophy which favored inner enlightenment and downplayed external forays.

He imbued his daughter Lau Lin with this outlook. He imprinted upon her the idea of *immanent light*, relegating transcendence to "the other."

In young Lau Lin's mind, Madame Daiyu came to embody that "other." She once concluded a conversation with her mother as follows: "you are part of me; you do not need to understand me; I must understand you."

At age 19, Lau Lin enrolled in Guangzhou University's cosmology program, where she developed her psychosophy over the next decade. She expanded the concept of immanent light to include peace and control.

In 2639, she founded the *Institute of Inner Light*, where she began power treatment of groups ranging from half a dozen to seventy members. When members relapsed, she resorted to various code-like expressions, for example, "the tail cannot wag the dog!" or, "that is not the cause, it is the other," or, "our infinite journey takes us from alpha to omega."

Unfortunately, members expected rapid results, and so Lau Lin - reluctantly and very guiltily - resorted to the occasional use of *Morphalin*. It helped. Morphalin is a hallucinogenic opium derivative which contains psilocybin and fosters waking dreams - somnambulism as it were.

Lau Lin's success was undeniable: neurons were repaired, intersubjectivity improved, attacks were pared, recovery was achieved in many cases. People and entire groups were literally saved.

In the spring of 2645, during a group session, a member by the name of *Wei-Shan* aimed an integral psycho-attack upon Lau Lin. For the next four months, she handled him alone. By

fall 2646, Lau Lin and Wei-shan were deeply in love and married.

There followed a period of franchise expansion all across China. Millions flocked to the branches of the Inner Light Institute, found in every corner of the country. Even Madame Daiyu became a die-hard aficionado. Many centers used, as a regrettable exigency, some Morphalin as part of the process.

ACPAn culture has always been peaceful and tolerant. Furthermore, Lau Laoism was a quietistic and non-violent movement. Also, Lau Lin was a very effective and charismatic leader. Hence, the movement encountered little violent conflict. Instead, it succeeded in gaining a growing presence in the Congressional Council, where its members introduced an increasing number of “norms” (= permissive laws). Their greatest legislative success came in 2734, when the Council made Lau Laoism a part of the professional training of hundreds of job categories.

At the same time, the Harbin Pharmaceutical Group received a contract for the supply of Morphalin to all Inner Lights Centers in South China.

In celebratory speeches, people noted sadly the absence of Madame Lau Lin, who had died 16 years earlier. During the second half of the 28th century, the Council went a step further: it normalized the free dispensation of the Morphalin to anyone over 27 years old. Madame Lau Lin would have been horrified.

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Thus, the character of ACPAn civilization underwent fundamental change, both on earth and in space. As the people of China and surrounding areas turned inward and away from the pragmatic and experimental spirit which had made them so prosperous and progressive during the previous four centuries, many universities and other institutions atrophied, and stagnation set in. Lau Laoism was both part of the problem and part of the solution, not unlike Christianity had been during the decline of Rome two millennia earlier.

On earth, decline was accompanied by centrifugal forces. In the beginning of the 27th century, a Japanese faction led by Shinkichi Tajiri began to agitate for a dissolution of the ACPA confederacy. Tajiri was born of a Hispaniolan father and a Japanese mother. He spent his universally required Alliance Service on Mars. There, he experienced the arrogance of the Chinese supra-controllers, who tolerated no deviation from Mandarin ideology. Upon his return to Fukushima in Northern Japan, he established the *Autonomy Institute* in 2643. This was the start of a separatist movement called *Plural Peace* (PP).

The movement spread like wildfire, not only in Japan but also in mainland states such as Manchu, Mongolia, Thaima, Korea and Tibet. In 2661, Tajiri was elected to the ACPA Council as head of the Japanese faction. Two years later, he submitted a motion to the Council for the cancellation of Japan’s ACPA constitutional membership, and for its replacement by a much loser federated membership. In essence, this was a declaration of autonomy for the island province.

At the same time, Tajiri’s office made overtures to Hispaniola for closer economic and

political ties to that country. This was an astute political gambit to add weight to Japan's drive for autonomy, in case China began saber rattling and trying to obstruct it.

Within eight months, half a dozen other constitutional ACPA members advanced similar autonomy motions in the Council. The Beijing government was alarmed. To diffuse the crisis, it called a constitutional convention, which was held in Shanghai in the spring of 2664. The representatives of ACPA's 27 member states were offered two options: (1) the status quo, or (2) reducing their relationship with ACPA to an alliance. Vietnam, Indolao and four members chose the first option. The other 21 members joined the new alliance. This is how ACPA devolved into a mere alliance, an organization comparable to what NATO was during the 20th century, and far from the integrated federation which ACPA had been for over six centuries.

In space, China and the rest of ACPA also had to scale back their activities. The federation was increasingly unable to support the cost of its space program.

Throughout the history of ACPAn society, there had been a cleavage between those who favored an aggressive space colonization program - the *exos* - and those whose priority was terran development - the *endos*. This division paralleled the psychosocial and political cleavage between the introspective *Lau Laoists* on the one hand, and the outward-looking pragmatists on the other. The latter had been dominant during much of ACPA's history, but this came to an end during the 26th century. From that time onwards, the prevailing view became that of the *endos*. A majority of Acpans became convinced that the federation's resources should not be spent "out there." Distant colonies which were a drain on the Beijing government, for example those on Titan and Shen Kuo, were granted autonomy. Those colonists were told, in essence, to sink or swim on their own. The only major colonies with which close political ties were maintained were the ones on Mars.

The global and solar communication system which ACPA ran for the benefit of most of the planet until the middle of the millennium, was increasingly run jointly by Beijing, by the Kyoto Council and by Hispaniola. At the end of the 27th century, Hispaniola took over leadership of the system altogether.

During the 24th century, ACPA's monetary unit, the Yuan, had been practically an alternative to the solar as a world currency. Then, due to the federation's gradual economic decline after the 25th century, the Yuan reverted to being a strictly national currency, leaving the solar as the only global money.

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4: India, Indosenia, Thaima and the rest of Asia: In the middle of the third millennium, India was the world's most populous country, with a population stagnating at 1 billion. During the following centuries, the country remained stable, while lapsing ever deeper into semi-feudal conditions. It possessed sufficient technology to avert chaos. Its nuclear power plants and its space program functioned moderately well. The country as a whole was more or less a loose federation of fiefdoms, each run by multi-billionaire industrial-scientific lords. These lords possessed private armies and their domains were separated from each other by armed borders. Yet, the relationship between these hundreds of domains generally consisted of commerce rather

than war, although wars did occasionally break out.

An example of a successful fiefdom was *Panchjanya*. This was a Kshatriya (= warrior caste) city-state in the Southern Indian district of Kerala. It thrived during most the 26th and 27th centuries, under the iron-fisted leadership of *Major General KP Candeth* and his descendants. The fiefdom had 65,000 militarized Kshatriyas, supported by 270,000 Vaishya traders. The remainder of the population were Sudras (untouchables).

The Candeths were a vast clan which owned and governed this entire caste structure. Their main business was trade in military hardware and software, both with neighboring Indian jurisdictions and the rest of the world. This brought in fabulous wealth, which in turn led to occasional attacks by envious neighboring warlords.

However, Panchjanya's fortifications and the formidable military skills of its Kshatriya warriors enabled the fiefdom to thrive for nearly two centuries. KP Candeth Sr.'s legacy to his descendants and his inspiration to his realm were his oft-repeated mantras. For example, "trade for peace, weakness is war," or "prepare the means, for the ends may change."

Indian fiefdoms ranged in size and in longevity. By and large, they emerged, evolved and dissolved without excessive bloodshed, as the loose Indian confederation to which they belonged, and which was headquartered in Delhi, mediated and managed the process effectively. Most such units had a life span of 50 or 70 years.

The central government in Delhi served as an umbrella administration in a number of areas: Mediation in local internal disputes, external relations with the world outside India, disaster relief, as in the case of the nuclear accidents which occurred periodically, and the management of the chaotic and dangerous failed states surrounding India, for example Pakistan, Kashmiristan and parts of the former Indonesia. In addition, Delhi ran the subcontinent's space program, such as it was. Lacking the means for a vigorous independent space program, India at first barely managed to participate in the colonization of the solar system. By the early 26th century, it had not established a single economically viable settlement on any extra-terrestrial body, merely possessing research stations on the moon and on Mars.

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However, from the late 2500s on, its space program received increasing support from the Kyoto World Council, in return for its generous contributions in manpower to the Council's rescue and police actions in Africa, the Pacific, the Indian Ocean and elsewhere.

Then, Hispaniola picked up the slack. During the following centuries, that country and India developed a partnership in space, based on the special relationship which they had enjoyed on earth for so long.

Many of the areas in India's vicinity were in turmoil during the second half of the millennium. Until the end of the 26th century, Pakistan and Kashmiristan remained chaotic no-man's lands. The United Islamic Alliance and the Islamic Republic of Iran guaranteed those failed states' independence, such as it was. A century later, when the UIA had become economically weak and

the IRI was approaching disintegration, the situation was different: Aided by Hispaniola, India established at least a semblance of authority over Pakistan and Kashmiristan. Conditions in the two areas remained appalling, following centuries of chaos, tribal wars and nuclear accidents.

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Indonesia had always been Muslim more in name than in true essence. It had little in common with the other great Islamic Republics - the UIA and the IRI - either culturally, ethnically or religiously. As the Islamic world lost much power and began to disintegrate during the 26th century, Indonesia also began to experience centrifugal forces. During the 27th century, the country that consisted of thousands of islands spread over eight million square kilometers, began to disintegrate into independent states. In 2713, the government in Java realigned itself with Malaysia, Singapore and several other countries to form the new federation of *Indosenia*.

Within three generations, the new state of Indosenia was thriving. The chief reason for this was that it became one of the world's most popular destinations for tourism and retirement. By the 29th century, 9 million Hispaniolans had moved permanently to such places as Bali and Singapore.

Hispaniolan Retirement Community in Indosenia, 29th century



5. Africa: In Chapter Six, we saw that no other part of the world suffered more than Africa during the first half of the millennium. The continent's devastation was the result of (1) environmental degradation and (2) colonial exploitation - primarily at the hands of the Islamic nations.

To be sure, Eurabia's African policies were sometimes well-intentioned. For example, in

response to the continent's huge ecological and demographic problems, the Brussels government built *Grande Campagne*. This was a massive health recovery camp completed between 2333 and 2352, at a cost of seventy five billion Euros, located on the confines of Nigeria and Golden Ivory. Within the first five years of its existence, three million emaciated, sick and dying refugees flocked to it. The annual operating budget rose gradually from thirteen billion Euros during the 2350s to forty four billion a century later. Yet, the population which it served, declined steadily. One reason for this was that, despite advanced holosomatic medicine and the selfless efforts of *medecins topographiques* and of the red crescent, the mortality rate remained high. More importantly, every month thousands of patients left the camp to return to their forlorn homes or to roam around the continent, opting for either of those choices over camp residency, which many interpreted as bondage.

By the beginning of the 26th century, *Grande Campagne's* enormous budget served more to fatten the pocketbooks of Eurabian and African politicians than public health. The camp's population declined to two hundred thousand patients, spending less than a year there on average. Vested interests made sure that the camp would continue to hobble along for another century. Finally, in 2603, at a time when Eurabia's economy was in sharp decline and its budgetary deficits were out of control, *Grande Campagne* was taken over by the United Nations. By then, it housed only a few hundred emaciated and sickly patients.

Grande Campagne in 2570, shortly before its take-over by the UN



Another well-meant and expensive Eurabian failure in Africa, was the *Eurafrikan Ecological Manifesto*. During the 2360s, Europeans spearheaded an effort to reverse environmental decline and fauna extinction on the dark continent. In 2383, the Brussels government allocated one hundred billion Euros over ten years to expand several African

national parks. For example, the *Great Limpopo* was to grow by 100,000 square kilometers of adjacent territory. Most of the annexed land was in the former failed state of Zimbabwe, now part of the Greater South African Republic. *Serengeti* would increase from 15,000 square kilometers fivefold. This would be achieved by joining cross-border Kenyan and Tanzanian territories, and expanding the reserve to the shores of Lake Kenyatta (formerly Lake Victoria). Similar expansions of natural habitats took place in other parts of Africa.

The *Eurafrican Ecological Manifesto*'s objective was (1) to restore the land and (2) to save the last remaining large species, for example the elephant, the cheetah and the zebra. For the rhinoceros and the mountain gorilla, it was already too late. Those creatures were already extinct by the beginning of the 22nd century. Implementation of the *Manifesto* began shortly after the turn of the 25th century. Its budget grew from ten billion a year at the beginning, to three times that amount forty years later. For several decades, progress was made in increasing the size of elephant herds, zebra herds, lion prides, cheetah families and many other species. Restoration of water tables and reforestation were also achieved in areas adjacent to the enhanced reservations. For example, Lake Kenyatta which had measured up to 70,000 square kilometers at the beginning of the millennium and had declined to 10,000 by 2400, grew back to 40,000 square kilometers a century later.

From the 2530s onwards, millions of wealthy Eurabian tourists flocked to Africa, encouraged by their government to support its ecological efforts by vacationing in Africa and spending money there. However, African tourism eventually took a wrong turn: A growing majority of wealthy Eurabians traveled to Africa for sex tourism rather than for eco-tourism.

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Despite Eurabia's and the United Nations' efforts, conditions in Africa continued to deteriorate. This was to be expected. The continent served as the world's nuclear dumping ground; its population was sapped by the IRI's and the UIA's "labor transfers." Deforestation and desertification continued unabated. By the early 2600s conditions reverted to the primitive level which existed before 19th century European colonization (See Chapter Six). Except for its Northern and Southern extremities, Africa was no longer even useful for exploitation by the world's powers, as its population had begun to decline. Life expectancy was 37 years.

During the 27th century, all that had been accomplished under the *Eurafrican Ecological Manifesto* went to waste. There was a great increase in poaching and in lawlessness. Shoot-outs between desperate poachers and authorities became more and more common.

Half the countries of Africa became failed states. Reservations such as the Great Limpopo became unsafe. Both eco-tourism and sex tourism declined to the vanishing point. By the early 2750s, elephants were once again approaching extinction, as the last few specimens were being hunted down no longer for their ivory, but simply as food. Like the *Grande Campagne* earlier, the *Eurafrican Ecological Manifesto* had to be jettisoned by a now impoverished and struggling Eurabian government. It, too was nominally taken over by the

United Nations - in 2717 - and later by the United Terran Organization. And as such, the program existed on paper only.

The remainder of Africa's history during the third millennium can be summed up as "coming full circle." That is, as the depopulation, de-urbanization, de-industrialization and fragmentation reached their apogee, so did a Darwinian natural healing process: The continent underwent a gradual reforestation and a restoration of its water tables. Those large species which managed to avoid extinction (hippopotamus, giraffe, elephant, wilde beast, etc.) were no longer endangered. The greatly reduced human population, including a considerable element of mutants, developed various resistances against both old and new diseases.

Africa could not remain an isolated "global natural reservation" for ever. By the 2840s, there was once again a growing flow of commerce, diplomacy and police actions between it, and the rest of the world, particularly the United Terran Organization and its most influential member, Hispaniola. This was a new beginning for Africa, as it began the process of re-integration into the global community. This community was now far more unified - close to being a global terran federation. Shortly before the turn of the 30th century, the UTO conducted an electronic census of Africa. One of the most astounding findings was that the continent's life expectancy had risen back to 79 years for Greater South Africa and to 52 years for Central Africa. While this was still lower than that of nearly every other region on the planet, it was a vast improvement from three centuries earlier. For the fourth millennium, Africa could look forward to be one of Terra's constituent states, and to experience greatly improved living conditions.

6. The Global Scene:

A. Terran Conflict and its Resolution: Whereas the first half of the third millennium was an era of global disintegration, the following five centuries saw the gradual unification of the earth into a single federated entity. Not only was the planet increasingly led by one world government - the United Terran Organization - but the global culture also became more homogeneous (See Section D, below), and wars between independent countries became nearly something of the past. However, the world's pacification did not happen overnight. Several major wars were fought during this period, both on earth and in space.

Before the earth learned to act in a united way to subdue mankind's predatory impulse, much of the responsibility for pacification depended on the leadership of a resurgent Hispaniola. Hence, several of the major conflicts affecting the world at large were discussed in Chapter Seven.

As we saw, the most important war during this era centered on the disintegration of the Islamic Republic of Iran. Hispaniola played the preponderant role in this struggle between 2752 and 2790. After that, the pacification and restoration of the region and the surrounding areas of central Asia were taken over by the UTO and the World Police.

Many of the other conflicts with global significance also occurred in Asia. One of these

was the painfully slow process of eliminating piracy in the Indian Ocean. This took from 2580 to shortly after 2713.

There were numerous local and less consequential wars as well, many of them in Africa. In the late 28th century, a group calling itself the *Uniform Sahelan Patrimones* waged a war of attrition against the remaining United Islamic Alliance presence in Northeast Africa, attempting to expel the UIA altogether. This fight raged for half a century, bloodily, inconclusively, and ignored by the rest of the world until the UTO finally stepped in. This led to a ratification of the status quo, whereby Egypt and much of Northeast Africa retained close ties with the Islamic world, while Sub-Saharan Africa distanced itself from it.

Pacification and unification were greatly advanced when the rivalry between Kyoto and Geneva was finally settled in 2790, with the creation of the UTO. The new organization's headquarters were located in Greenlandia.

This was a major step towards world government. The first President of the UTO was *Drdus. Dorenavante Five*, a chloro-scientist from Greenlandia whose career began as a space organizer. He was the youngest man to ever reach Status Five, at 39. This great accomplishment was possible in part because he grew up as an integral member of the stem of Greenlandia. That stem had played the central role in establishing, and then unifying, the twin Uranian colonies of Riveria and Jonasi during the first decades of the 28th century. Dorenavante was appointed governor of those twin territories in 2768, a post which he held until 2786.

Elected as the UTO's first president in 2790, Dorenavante's greatest achievement took place 3 years into his first term - Establishment of the World Police. Backed up by this powerful new institution, he proceeded to pacify most of the world's troubled areas, including Northeast Africa and Central Asia. His successes led to his numerous reelections, while his term's longevity enabled him to succeed - a virtuous cycle which lasted until his death at the age of 127, in 2834. During his 44-year tenure, the world came to know and to appreciate its first truly global leader. One of his favorite phrases became part of the universal lexicon: "*The steward is the logic;*" "*The helm is the forte.*" Dorenavante can, more than anyone else, be viewed as the world's first President. During his presidency, all conflicts on earth were police actions. None involved individual nations fighting each other.

UTO Headquarters, Greenlandia



B.Population and Space Organization: As global relations and conditions improved, and as the world became more collaborative, the population became, once again, far more mobile. Most countries relaxed their emigration policies. The previous centuries had been a period of population decline, and most states tried to strictly limit emigration, while promoting population imports.

The world's population had peaked at 12 and a half billion shortly after 2200. It then began to decline, dipping under 10 billion during the early 25th century and reaching a low of

less than 6 billion by the early 2600s.

Then, population pressures began to reassert themselves, particularly in Hispaniola and in Africa. The causes for these two regions' resumption of demographic growth were the opposite: In Hispaniola, the birth rate did not rise significantly, but a vast improvement in medicine and public health caused the death rate to plummet. In Africa, it was the birth rate which rose, and led to a renewed population explosion, despite the fact that living conditions remained appalling. The cause of Africa's rising birthrate was the fact that the continent's previous depopulation had given the environment the opportunity to recoup, and to sustain, once again, a growing population. Many of the world's other regions also began to experience population growth, including India, whose population had long been stagnant.

Thus, millions of people were once again on the move, emigrating, immigrating, and seeking better opportunities away from their native lands. Hispaniola's population grew especially fast, due not only to its net natural increase, but also to millions of immigrants, primarily from India.

By the late 27th century, there were once again 10 billion people on earth, nearly one third of them living in the Western Hemisphere. Fifty years later, the planet's population reached an all-time record of 13 billion. Once again, the world was in Malthusian jeopardy.

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Human action and natural phenomena conspired to inflict several environmental disasters on humanity during this period. The Great Flood of 2727, which nearly destroyed the entire low Countries of Flandria and the former Netherlands, was already discussed in an earlier section of this chapter. In addition, a number of states were permanently wiped off the face of the earth, including Bangladesh, Nauru, Tuvalu, Vanuatu, and some other parts of Micronesia.

When several Pacific island nations became permanently submerged during the late 28th and early 29th century, the bulk of their population was resettled in Australia temporarily by the UTO. However, Australia itself was dreadfully poor and overpopulated. Its 12 million people were utterly dependent on UTO assistance for food and energy. It was in no position to act as a good Samaritan. Hence, most of the refugees were eventually sent to Mars and to the moon. The UTO offered an array of incentives to the prospective settlers, including free passage, shelter, and annual paid holidays on earth.

The earth's accelerating population growth during the 28th century was both a sign of health, and worrisome. Realizing that the planet was once again on an unsustainable demographic trajectory, the authorities resumed a policy of aggressive space colonization, with Hispaniola in the forefront. As we saw in Chapter Seven, that country had begun a vigorous space organization program as far back as the 2630s.

Space Organization: The challenges were formidable. Transportation was the least of these. Far more problematic were the enormous tasks of (1) oxygenation and hydration, and (2) temperature control. These were the major components of the overall space program, which was to alter the solar system's environment to make it fit for large-scale human life. This became known as the Organization of the Solar System.

The major impetus behind the new global space effort was the establishment in 2572, at

the insistence of Hispaniola, of the *International Space Organization Administration*. Initially, this was a branch of the Kyoto World Council. The mission of the ISOA was to “create, advance and maximize extra-terran *organic* phenomena.” Or simply put, to maximize life in space.

The difficulties involved in hydration and oxygenation varied, depending on the local chemical conditions of each planet, moon, asteroid or satellite. Most bodies in the solar system already possessed the half dozen essential biogenic elements. Many had liquid or solid H₂O. Oxygen and its allotrope O₂ were also common, as were Carbon (C), Hydrogen (H), Nitrogen (N), Sulphur (S) and Phosphorus (P), either in the ground or in the atmosphere. The trick was to develop, and to supplement these elements to a level sufficient for the survival of large human populations.

As to temperature control, the hard and inescapable fact was that the further away from the sun a celestial body was, the colder it was. While some regions of Mars reached comfortable temperatures of up to 20 degrees centigrade, no body located beyond the Red Planet enjoyed temperatures above freezing. Relatively mild temperatures of near freezing occurred in some of the asteroid belt, but beyond that - on the moons of Jupiter, Saturn and Uranus - temperatures were typically at 200 to 290 degrees below zero.

Fortunately, probes launched jointly by Hispaniola, ACPA and the Kyoto World Council during the 26th and 27th centuries showed that many celestial bodies had geothermal activity, which raised the temperature of entire regions to livable levels. A good example of this was Saturn’s moon Enceladus, where a region the size of Greenland was found to possess water and a variety of mid-sized organisms.

Clearly, some solar bodies were far more suitable for organization than others. One of the first steps taken by the ISOA, was to inventorize 627 bodies in the solar system as to their suitability for human settlement.

Organizing the solar system was an enormously costly and never-ending project. But despite the monumental technical challenges, there was slow and steady progress. Terrans never forgot that the space program held the promise of a quantum leap in the quality and the character of human life. At the outset, the effort was nominally under the auspices of the Kyoto World Council. However, those national governments holding the purse string were largely in control. During the 27th, 28th and 29th centuries, Hispaniola - often seconded by ACPA - was largely in control of most terran organizational activities in the solar system. After the ISOA completed its inventory of 627 solar system bodies, identifying the most promising candidates for organization, the great powers quickly selected the choice plums for themselves.

To be sure, no single terran state claimed “possession” of a moon, a planet, an asteroid or a satellite. The question was merely as to which terran state was primarily responsible for *administering* a given satellite, or part of one. On most bodies, different regions were under the jurisdiction of different terran states, and some were administered jointly. Also, several states already had *de facto* control of a moon, part of one, or of an asteroid, because they were there first.

The following is a partial list of terran colonies developed in the solar system during the second half of the third millennium:

ACPA and Hispaniola had large lunar districts, and Eurabia and India also had settlements there. In addition, these four countries and the United Nations and the World Council also had a number of individual space stations at the Lagrange points within the Earth-

Sun, Earth-Moon, Earth-Mars and Earth- Venus navigational systems.

Colonization of Mercury and Venus was daunting, due to the very high temperatures of the Inner Solar System. Of the two inner planets, Venus was the most problematic, as its temperature hovered permanently at around 460 degrees Celsius. Mercury is not isothermal, therefore life on it was somewhat more possible, at least on a subterranean level. All in all, the better option for both planets was to build floating cities, and that is exactly what the ISOA embarked upon during the last century of the millennium.

As to Mars, it was ACPA which had spent many generations organizing and trying to populate that planet. Understandably, that country remained the primary administrator of many of the Martian territories. However, from the 26th century onward, it increasingly shared that responsibility with Hispaniola, which at first became a partner and then a leader in the organization of Mars. Several other terran governments also had settlements on the Red Planet, as did both the World Council and the United Nations.

By the 28th century, Hispaniola was in sole control of the largest asteroid, Ceres, and it was busy settling nearby 4 Vesta and 10 Hygiea - two asteroids with circumferences of about 1600 kilometers.

Most of Jupiter's moons, including Io, Europa, Callisto and Ganymede, were exposed to lethal levels of radiation, and their surfaces consisted of ice. They were therefore largely unorganizable. However, terrans did build floating cities around most of them, small scientific research stations on the surface of several of them, and profitable mines on a few of them. For example, ACPA was largely in charge of administering and exploiting the mineral riches of Io and of Europa. Hispaniola built and controlled most of the stations orbiting Callisto. As to Ganymede, it was first jointly explored by ACPA and Hispaniola (early 28th century) and by the ISOA after the world was unified under the United Terran Organization in 2790. During the 29th century, the UTO also began to land on some of Jupiter's Trojan asteroids.

One promising exception among Jupiter's moons was *Da Liu Ren*, a small satellite (radius of 350 kilometers) discovered by ACPAN astrophysicists back in the 22nd century. Da Liu Ren was left unexplored until the 29th century, when a UTO team finally landed on it, and was astounded to discover substantial oxygen, ozone, geothermal sources and several methane lakes, making it by far the most promising Jovian moon for colonization. While the organization of the Solar System was now fully in the hands of a global government and no longer the responsibility of separate terran jurisdictions, the UTO nevertheless appointed a team of Eurabians and Indians to take charge of Da Liu Ren. Those two groups were under-represented in space colonization, and the UTO wished to remedy this - a form of affirmative action if you will. Within a few decades, Da Liu Ren had a capital city, built on the shore of its largest lake, one given the name *Nijamena* by the colonists.

Saturn's moons were initially also colonized by different terran states: Titan and Shen Kuo had been under ACPAN control since the 23rd century. Two centuries Later, Hispaniola had taken over the lead around Saturn. It had established several of its own colonies on Titan, for example *Nova Terra*, where it invited Eurabia as a partner.

The organization of Saturn's other moons - including Enceladus, Phoebe and Dine - only began in the late 29th century. By then, the terrans' space effort was a collective enterprise. Space colonies were no longer under the separate control of individual states.

The same goes for Uranus' moons - including Oberon, Titania, Ariel, Riveria and Jonasi. The last two of these satellites were discovered during the 25th century. However, no

landings or meaningful exploration took place until the middle of the 27th century, when Hispaniola assumed control of their administration.

Due to Uranus' great distance from Earth (17 astronomical units, travel time one year with the advanced proton reactor) and its extreme temperatures (down to 290 degrees below zero), the organization and development of its moons did not commence until the mid 30th century. By then, this was a collective Terran effort under the control of the ISOA.

At the close of the 3rd millennium, human activity beyond 20 Astronomical Units (3 billion kilometers) was still in its infancy. Humans and bios did explore Neptune and begin to settle some of its moons, for example Triton, which was relatively hospitable to life. They also made forays into some of the Kuiper Belt's TNOs (Trans-Neptunian Objects), including Pluto.

The Halevy-Luric Expedition: One of the most important explorations was undertaken in the spring of 2942. The ISOA commissioned a long-term expedition to explore the periphery of the solar system. Six enormous *class V Artemis* ships, retrofitted with the latest proton reactors, were sent out.

The mission specified some of the objects to be explored. These included *Neptune*, *Pluto*, their moons, the dwarf planet *Haumea*, and the *Kuiper Belt*. The explorers were to establish a permanent human presence in the form of stations manned by humans and bios wherever possible. They were also charged with the discovery of hitherto unknown *Trans Neptunian Objects*, and to begin observations and measurements of the *Oort Cloud* - the vast agglomeration of comets and gasses that surrounds the Solar System up to an unfathomable distance of one light year out. As a rule of thumb, their maximum reach was set at a distance of 40 Astronomical Units from Earth, or 6 billion kilometers. At that distance, it took messages five and a half hours to reach Baikonur Mission Control, or an eleven-hour response time. It was felt that slowing down communication beyond that point would be cumbersome and dangerous in the event of emergency.

Traveling at a maximum speed of 300,000 kph, the fleet could theoretically reach Neptune and the closest elements of the Kuiper Belt in early 2944. Each of the 6 ship's crew consisted of 85 to 90 humans and up to 500 Omega class bios. 10% of the latter were males, 10% females, and the rest neutrals. Both the humans and the bios were part crew, part colonists, and their population would therefore have to increase. As colonists, the humans were all volunteers.

During the voyage, ships took turns at cryonic sleep. At any given time, five of the six ships were in cryonic sleep for a month, while one remained active and in charge. Then, another ship took over command.

Appointed as overall leaders of the expedition by the ISOA High Council were *Drdus. Beniamain Halevy* and *High-Captaina Ladvilla Luric*. The former headed up Research. He was a faction commander at Cordoba Exact University (Argentina), 68 years old when departing. He was a pioneer in anti-matter engine technology, for which he received the Nobel Prize in 2935. Along with him went 9 of his assistant-consorts - 3 males, 3 females, 3 neutrals.

Captaina Luric was head of Navigation. She came from Baikonur. She was 57 at the time of this appointment. She and her team had been in charge of civilian and police personnel and material transfers to Io, Callisto, Europa and Ganymede since 2928. They had incurred many casualties to lethal Jovian radiation, but also made much progress in the field of anti-

radiation technology. There was no more experienced team to be found anywhere in the known Solar System.

The expedition reached Neptune and its moon Triton in the summer of 2944, 2 years and three months after departure. The fleet of six ships had stopped on Mars and on Io for supplies and revitalization. It was also slowed down by a three-week long solar storm, from which it had sheltered itself behind Saturn.

It was decided to establish a first colony on Triton. The settlement was named *Lassellion*, after the satellite's discoverer. Triton turned out to be surprisingly hospitable, despite its extremely cold surface temperature. It possessed large amounts of sub-surface liquids (ammonia and water), and geothermal activity which raised even surface temperatures to bearable levels. Two power stations were built - one nuclear and one anti-matter.

In the summer of 2948, the fleet proceeded further outward, leaving a permanent garrison and a group of reproductive humans and bios in Lassellion - altogether a population of about 1250, and growing rapidly. Five of the ships continued, while *Artemis α* remained with Lassellion, in orbit over Triton.

Numerous new TNOs were discovered, identified, registered and classified. These included 2946QR, 2947Omega4, and Huygens54. The latter was the largest TNO discovered in over a century, with a diameter of 950 kilometers. Small groups of fertile bios were left on three such suitable objects, the seeds of colonies with sustainable populations.

Next, the explorers traveled outward another 10 AUs, or 1.5 billion kilometers, reaching Pluto and its moon Charon in the winter of 2949. While Pluto was not habitable, Charon was. It had much water, and underground temperatures reached 10 degrees centigrade within one hundred meters from the surface. For the time being however, the explorers only left a small research station behind, as Charon was over 6 billion kilometers from earth, i.e. at the outer limit of current prospects.

Before returning to the closer orbits of Neptune and its moons, Dr. Halevy asked Captaina Luric to send the *Artemis β* ship out to the Pluto - 2948Cortona Lagrange Libration Point. That vantage point provided optimal conditions for radial observation of the closest elements of the Oort Cloud and for the location of a permanent station.

On their way to this point - at 42 AUs from earth, the farthest point ever reached by humans or bios - disaster struck: On June 29 2952, *Artemis β* collided with the *Ye Qanzhi comet*, whose orbit had shifted unpredictably.

The ship was equipped with 10 SRVs (Space Rescue Vehicles), more than enough to accommodate its crew of 69 humans and 288 bios. However, no provisions had been made for the remoteness of the scene of the accident: It took place 300 million kilometers from the main fleet, in orbit over Charon, and nearly 2 billion kilometers from the main base at Lassellion. SRVs had a maximum reach of 2 AUs. Traveling at their maximum speed of 100,000 kph, they could reach the main fleet in four months. However, an SRV's generators did not have the capability to supply enough oxygen and hydrogen for 35 men for four months. All bios but the most essential ones - for example the immunizers - had to be sacrificed so as to save the humans.

The four-months long return to the main fleet was an ordeal. Each pod started with more

than two dozen bios and half a dozen humans. The number of bios was reduced gradually, and pod by pod. Once a pod's crew was down to 2 or 3 bios and its 6 or 7 humans, they were all transferred to another pod, and the empty pod was abandoned. By the time they reached the main fleet in November of 2952, only 3 SRVs remained. There were 71 survivors - 23 bios and 48 humans. Thanks to the bios' selfless sacrifice, a majority of humans survived the terrible crash. However, the loss of 286 crew members was a terrible blow to the expedition.

Dr. Halevy, Captain Luric and mission control in Baikonur agreed unanimously to henceforth limit their explorations to a maximum distance of 35 AUs from Earth. Besides Neptune and its dozens of moons, the dwarf planet *Haumea* also seemed to be a promising candidate for colonization. *Artemis ε* and *ζ* went back to rejoin *Artemis α* in orbit over the Triton base camp at *Lassellion*, which meanwhile was growing into a thriving city. *Artemis γ* and *δ* began preparations for the settlement of Haumea. The oval-shaped planet was at a distance of 34 AUs from Earth. Its size (about 1000 kilometer diameter), gravity and chemistry made it an attractive prospect for human habitation.

Alas, this was not to be. On Haumea, the Halevy-Luric Expedition met with a disaster of even greater magnitude than the *Ye Qanzhi comet* collision the previous year: During the first few months of 2953, things went well. A permanent subterranean base was established, able to accommodate over a thousand individuals. It was named *Brownia*, after the dwarf planet's discoverer.

The first hint of trouble occurred in July, when many of the surface instruments began to register very high alpha and beta particle counts. A month later, some of the surface quantum sensors began to malfunction, and soon most of them were out of commission, forcing the colony to rely on the sensors located on board of the fleet in orbit. During the fall of that year, an increasing number of bios fell ill. Then, some of them died of unexplained causes. The problem was clearly local, as all of the nearly 400 bios who stayed on board of the ships remained perfectly healthy - as did the hundred humans in orbit.

Equally worrisome was the growing number of casualties among the bios sent out on surface patrols. The gold-titanium radiation shields were somehow no longer providing the level of protection which had been perfectly safe only a few months earlier.

In January 2954, a patrol returned to Brownia from the landing site, 25 kilometers away, and reported an astounding finding: The crystalline formations surrounding the landing site had totally altered their shapes and positions. Dr. Halevy's research team came to the inescapable conclusion that this was not caused by external valences, and that the silicon-based crystallines had altered *themselves*. Clearly, the explorers were being confronted by a species of *scient creatures*.

Attempts at communication made things worse. Halevy tried to link five communication bios to the creatures through electroencephalitic modulation. Three days later, the five bios were dead.

The Dwarf Planet Haumea, in the Kuiper Belt



By April, surface patrols became lethal to both humans and to bios. There were severe losses. Brownia's population dwindled to fewer than 700. The 650 bios and 45 humans were holed up 100 meters below the planet's surface.

The expedition had no choice but to evacuate the planet. A return in force and the full sterilization of the dangerously hostile planet by the military would have to wait several decades. For now, the focus for the colonization of the outer solar system would be Charon and the newly discovered Huygens⁵⁴ if possible, and certainly Triton and Neptune's many other hospitable moons.

On September 17 2954, *Artemis* δ assumed a lower orbit so as to evacuate the 695

Brownia colonists. First, they had to be moved to the shuttle landing site, 25 kilometers away. Two dozen SRV shuttles were standing by to ferry everyone up to one of the two mother ships. As the last four SRVs were boarding *Artemis δ* with the last 100 colonists, the mother ship began to shudder violently, and then exploded, killing the nearly 700 colonists who had just been evacuated, along with the ship's crew of 178 bios and 107 humans.

One hundred kilometers away, the crew of *Artemis γ* stood by in horror, as its sensory processors recorded something which would only be believed thanks to the digital evidence: the crystalline creatures became mobile, and began to emit heavy doses of teleparticles along a randomized radio spectrum, clearly attempting to ensnarl the spaceship before it could reach escape velocity. *Artemis γ* did manage to escape, however, heading as fast as possible towards *Lassellion*, which it reached in less than three months.

It took the Halevy-Luric leadership a year to recover from the Haumea catastrophe. After *Artemis γ*'s arrival on Triton in January 2955, it was decided to spend a year consolidating the colony. Then, once *Lassellion*'s defenses were built up and strong demographic growth was assured, the four remaining ships would head back to Mother Gaia (as Earth was increasingly referred to).

In January 2956, sixteen years after their departure from Earth, *Artemis α, γ, ε, and ζ* were at long last preparing to begin the 2-year long voyage back to Mother Gaia. Despite the tragic losses of life, the Neptunian colony thrived. Its population had grown to nearly 5000. Dr. Halevy, Captaina Luric and the research teams returning home would only be accompanied by skeleton starships crews of fewer than 100 bios assisted by a handful of humans. Other starships were scheduled to return to *Lassellion* bi-annually at first, and more frequently later.

There was some discontent. A sizable number of human colonists wished to return to Earth, which was contrary to the agreement they had signed. There were also several hundred bios who insisted that they had been shipped to Triton against their will. Their reasoning was rejected by the UTO's Space Court, on the grounds that the rights of bios were subordinate to the commonweal.

In late 2955, two months before the scheduled return of the fleet to Earth, two humans recruited a group of bios into a class action based on the argument that bios were programmed circularly, whereas human genetics were not. A few days later, five human genetics were found to have been neuro-empathized by bios, effectively reducing them to non-eligibles. The five bios responsible for this were apprehended. When hundreds of additional bios came forward, claiming their eligibility rights, the Council had no choice but to use a lottery system to select the crew of roughly 500 which would return to Earth.

The 5 bios guilty of neuro-empathy were neutralized. As the four *Artemis* ships departed, the nearly 5000 residents who stayed behind in *Lassellion* had the certainty that they were not being abandoned: A Triton-bound fleet had already left Baikonur several months earlier - the first in what would soon become a regular shuttle service.

At the close of the 30th century, the ISOA remained unable to answer two important questions: what to do about Haumea, and were the crystalline creatures of extra-solar origin? Several centuries would lapse before Solaria could mount a major military operation to eradicate that hostile life form from the solar system.

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Even though space organization gradually became a joint global effort, and although space colonies were run by the UTO's ISOA after 2790, states still had individual administrative responsibilities in different regions of Mars, the moon, and elsewhere. By the mid 30th century, the overwhelming majority of humans living in space were on Mars, on the moon, on Mars' moons Deimos and Phobos and on the belt's four largest asteroids. Of this extra-terran population, 90% - or nine million - lived on Mars and its two moons.

Mars was Solaria's industrial and extraction heartland. A third of its people lived below the planet's surface, one third lived in perma-domes, and one third lived in natural habitats created at the two temperature poles. Until the middle of the 30th century, the following 4 provinces were administered by Hispaniola: *New Acadia*, *Borealia*, *Nunavot* and *Foundatione*. The following 3 by ACPA: *New Hebei*, *Acpolia* and *Pin Yunan*. The remaining 5 provinces directly by the UTO. However, by the end of the century, all 12 Martian provinces came under direct UTO jurisdiction.

The planet's two largest cities were *Borealis*, located in Borealia, and *Acpolis*, in Acpolia. The latter was Mars' commercial and extraction center, while the former grew to be the planet's political and communication hub. In the 28th century, the two cities were of equal size, but in time, Borealis increasingly eclipsed Acpolis. By the end of the 30th century, the former city had a population of nearly one million.

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Even prior to the quasi unification of the world as a federated union, armed conflict in space - for example for territorial possessions - was out of the question. When the Kyoto World Council created the *International Space Organization Administration* in 2572, it also passed a unanimous motion outlawing all offensive warfare in space, under penalty of expulsion from the world body. Within two years, the United Nations adopted an identical law, and when the two Councils were superseded by a unified United Terran Organization in 2790, the resolution of course became the global law.

Were there no jurisdictional disputes in space? Of course there were. But they were never settled violently. An example: In 2715, Eurabian colonists who had lived on the Moon's Aristarchus Plateau for three hundred years got in a dispute with new arrivals from Hispaniola, who were attempting to settle the same region. There was territorial dispute, but also intermarriage and integration of the two populations. The latter complicated matters, because it led to inheritance disputes as well. In 2803, representatives of the two factions traveled to Greenlandia for UTO arbitration. The Eurabians were offered either full assimilation with the remainder of the people living on the Plateau (who, meanwhile, included Hindis, Indosenians, Acpans and several others, besides Hispaniolans), or to be re-settled on Mars. Most chose the former solution, but a small faction of die-hard purists accepted relocation.

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In sum, the last two centuries of the 3rd millennium were the epic age of space exploration, and of the first attempts at space organization. Obstacles to the latter remained formidable, but *psychologically*, humanity was building up self-confidence and enthusiasm. It

was re-orienting itself towards a new extra-terrestrial, solar, perspective. Indicative of this was the fact that earth was increasingly referred to as *Gaia*, or *Mother Gaia*. Humanity knew that its destiny was to expand, to become a *Solar* society.

Two of the most important phases of extra-terrestrial organization were hydrogenation and oxygenation. The illustration below shows the early stages of these processes on one of Saturn's moons, Enceladus, whose development started in 2981.

Early stage of Oxygenation and Hydrogenation of Enceladus, one of Saturn's moons (2998)



C. Solar wars: Armed conflict which occurred during the second half of the millennium, and which remained limited to earth, was discussed in Section Six A of this chapter. On the other hand, a major war which extended into space, was Hispaniola's short but violent Ceres War of 2953-2955. This was discussed in Chapter Seven.

In addition, there were a number of conflicts which extended into space and which involved the entire global community. The single most important such war occurred near the end of the 30th century. During the 2970s, colonists from Mars' *Acpolia* and *Pin Yunan* provinces

joined forces with settlers on *Deimos* and *Phobos*, seeking to form their own federation, independent from Gaia.

Little is known about the origins of this movement. It is believed that it began in one of the Martian penal colonies which were administered by ACPA until the middle of the 30th century. By the 2960s, all Martian provinces were under the UTO's global jurisdiction, but the penal colonies in these provinces were still largely populated by East Asians. These people had committed various crimes on earth and they had been exiled to Mars.

The rebellion did not acquire momentum until it spread to Mars' two moons - Deimos and Phobos - where a majority of settlers were of Korean extraction. One of these exiled emigrants ascended to the movement's leadership. His name was *Drdus. Bo Mhin*, a brilliant cryo-physicist who had been in charge of Seoul's largest cryo-preservatory. In 2949, Dr. Mhin pulled the plug on 77 of the pods under his care. He was charged with mass murder and community endangerment. In his defense, he claimed that he had to destroy the 77 cases because they were contaminated. The evidence was ambiguous. Mhin was punished with exile and ordered to take charge of Phobos' Cryogenics Institute.

By 2973, Mhin had taken over the leadership of the rebellion. He and his followers called themselves *neo-Eleutherians*. They claimed to model themselves after the famous freedom-fighter of the early 30th century. Eleutheros' activism had culminated in Hispaniola's *Interplanetary Solarity Amendment* (2947), which granted all solarians Hispaniolan citizenship. However, this new rebellion occurred after Gaian unification under one federated government. Tellingly, it was *not* taking place in territories which had formerly been under Hispaniolan jurisdiction. Mhin and his followers rejected a solution modeled after the Treaty of 2947.

In response to their demand for independence, the UTO Council offered them Gaian citizenship. However, the neo-Eleutherians argued that the UTO had no citizenship to offer, since Gaia no longer consisted of citizen-states. They remained adamant in their demand for independence.

The UTO council realized that if these colonists succeeded, others would imitate them. The rebellion was not acceptable. Military means were required to put it down. It took the ISOA and the World Police two years - until the summer of 2976 - to assemble a large fleet for the operation. This had given the rebels time to recruit and re-program over 200,000 bios.

The ISOA fleet command's strategy was dual: one for the human rebels, the other aimed at their bio support forces. The chief weapon used against the human forces was an embargo on all psychovital supplies necessary for survival in a non-terran environment. The vastness of Solarian space precluded interception. However, fleet command posted its forces near the rebels' main ports of entry on Mars, Deimos and Phobos. It is at such space ports that the greatest amount of violence occurred, both sides losing dozens of ships and thousands of lives during five years of intense fighting.

By 2981, the UTO was achieving its goal, which was to deny the rebels their psychovitals. As a result, the rebels atrophied. Most of the people in Acpolia, Pin Yunan, Deimos and Phobos did not die - at least not immediately. Instead, many suffered from growing energy deficit and rapid atrophy.

When UTO forces began to land in these areas, they were met by a geriatric population which neither desired nor could put up armed resistance. However, the several hundred thousand bios at their service were another matter. They had not suffered the ill effects of psychovital deprivation, and they had to be destroyed.

The rehabilitation of the rebel territories took until the end of the century. The mortality rate among the weakened and prematurely aged inhabitants was high. Some were brought back

to health, but the colonies became quite depopulated. During the 2990s, the UTO introduced a large new migration program to repopulate the affected Martian provinces and their two affiliated moons.

D. Technology and Civilization: As we saw in Chapter 7, the 2nd half of the third millennium was when the world managed to wean itself from nuclear energy. Hispaniolan leadership played a crucial role in this, particularly during the 27th and 28th centuries.

Ion exchange technology, which greatly reduced radioactivity, was already known in the mid-2600s. Then, the 28th century saw the blossoming of anti-matter reduction. By the end of the millennium, nuclear energy was no longer produced anywhere on earth, although it remained an important source in the colonies.

The last remaining challenge was to dispose of the dozens of thousands of tons of radioactive waste which had accumulated over 800 years of nuclear energy use by the planet. Finally, during the 30th century, the ISOA built a space station exclusively dedicated to the launch of waste disposal vehicles in a manner that posed no risk to Earth. Jupiter's moon *Io* became the destination of these vehicles. That body had a long history of giving terrans nothing but trouble. ACPA had desperately tried to colonize it and then, failing that, to exploit its mineral riches - with very mixed results, due primarily to excessive radiation. As a last resort, then, *Io* became the Earth's nuclear garbage disposal.

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Mobility: Gaian transportation also made much progress. As we saw in Chapter Seven, much of the progress which took place from the 26th through the 29th centuries could be attributed to Hispaniola: During the dark era preceding the Great Awakening, life and technology in the Western Hemisphere had regressed. This meant a great decrease in mobility, a return to simpler and slower forms of transportation, such as lighter-than-air flight, two-wheeled vehicles ("bikes"), human-propelled, wind-driven, dynamo-driven vehicles, etc. At the same time, these primitive and cumbersome technologies were all a blessing for the environment, and for human vigor.

From the Great Awakening onward, the challenge was to turn vice into virtue, to preserve the environmental and health benefits while returning to fast and efficient transportation for much larger populations. After the middle of the millennium, Hispaniola was in the forefront of the transportation revolution, because it had previously experienced the most severe setback, and because it was now the most innovative and progressive society.

By the 29th century, the *plat movors* developed in Hispaniola for short surface trips, and available for less than 5,000 Solars, were widely used in all continents, including Africa. Vehicles with three-dimensional capability (3Ds) were also used by millions of people. However, the median cost of a low-power 3D was 30,000 Solars (in 2900 adjusted Solars), while high-power 3Ds ranged from 100,000 Solars to millions. Thus, the vast majority of 3D owners were Hispaniolans, ACPAns, and Eurabians. Low-power 3Ds were often two-wheeled, and either human-propelled, wind-driven or dynamo-driven. Their maximum vertical reach was 300 meters.

In the 27th century, Hispaniolan scientists invented a new compound - *Flextana* - which was strong and solid enough to carry passengers and cargo, but at the same time pliable enough to endure contact and even mild collisions without any lasting consequence. An extremely sturdy

sort of rubber, if you will. Within three decades, practically all earth-bound plat movors and all 3Ds were made of flexтана. As a result, traffic became much safer, although deadly high-speed collisions still occurred.

One enduring problem for society was the tension between public and private transportation. For the affluent, private vehicles remained the obvious choice. However, for the millions who could ill afford this, as well for the commonweal and for the well-being of the global environment, it was important to move people (and the growing bio population) *in groups*.

To this end, Hispaniolan scientists came up with a major innovation in the 28th century: Both flat movors and 3Ds became equipped with *magnetizers*. As a vehicle joined the flow of traffic, it coupled itself to a group of other vehicles traveling toward the same destination, and it shut off its engin for the duration. The group then traveled as a cluster, propelled by a Common Engine. When an individual vehicle approached its destination, it re-ignited its motor and decoupled itself from the cluster. By the 30th century, a majority of the world had adopted this hybrid private-public mode of transportation.

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Also, much progress was achieved in *virtual mobility*. Increasingly during the 2nd half of the millennium, people were able to work, interact and recreate at a distance. The technology had long been available, at least in primitive form. After all, *Virtulife* was known as far back as the 22nd century. During Hispaniola's centuries of decline, it had entirely vanished from that continent, while China and other members of ACPA had merely continued to use the technology in a primitive and purely recreational way. Thus, it was left to Hispaniolan scientists to revive the technology after the Great Awakening, and then to develop the far-reaching applications of the field of *Virtumotility*.

So much progress was achieved in this field during the 27th century, that by the early 2800s a majority of employees worked and lived in the same place. Of course, some jobs were more amenable to this than others. Communications, information, educational and interpersonal services benefitted the most from virtumotility, while safety, transportation and manufacturing still required a certain amount of commuting.

A negative side-effect of Virtumotility was *bionic atrophy*. This affected an increasing number of humans, and a growing proportion of bios. Bionic atrophy generally shortened life-expectancy. During the 2750s, *Drdus. Kalakau of-the Ali* and his associates at the *Hawaiian Super-Connective Institute* began a massive research program on the atrophizing effects of virtumotility.

Later in the 28th century, the program was taken over by the Kyoto World Council, and after 2790 by the UTO. Scientists integrated their approach with the earlier Hispaniolan discoveries in *empathic introspection* (see Chapter Seven, Section Three). This led to the discovery of new sources of noetic power which were capable of counteracting bionic atrophy. Using a brain-virtupod interface, subjects were put to phase-3 sleep at virtupod centers, and then subjected to various forms of virtumotility. This produced a *reversal* in bionic atrophy - as if the subjects were *actually* training their muscles and strengthening their bones *during sleep*. This pretty much assured a bright future and wide application for virtumotility.

Meanwhile, the cost of virtumotility remained high. Therefore, even in the 30th century, it was far more widely used in the affluent parts of Gaia and of Solaria than elsewhere. For example, Hispaniola used ten times more virtumotility than did Africa, and Gaia ten times more than the colonies.

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Culture and Language: During the 2nd half of the millennium, the global culture became increasingly homogeneous. This is not to say that subcultures did not persist. Gaia and Solaria remained a wildly diverse place, accommodating thousands of languages, dialects and mores. And as the Solarian realm expanded, new cultural forms emerged and grew in all its parts. However, the electronic unification of the planet and of Solaria required uniform technical and scientific standards.

There was a mass culture increasingly accessible to all of humanity. For example, young people in Johannesburg, in Greenlandia, on Ceres, in Martian cities and even on distant Uranus' Oberon, were familiar with the same music and the same rhymes. For example, the famous artist *Patros Julian* created his twelve modulations in the early 28th century. A century later, these were still performed in many parts of the world and elsewhere.

Classical culture had been dormant until the turn of the 26th century, but it was then gradually revived. Until then, much of the body of classical, perennial, culture - including the music, the literature and the visual art of past greats such as Mozart, Shakespeare, Michelangelo, Davis, Shankar, Abdul-Ra, had only been known to isolated scholastics. Then, much of this was re-discovered.

Until about 2700, pre-21st classical culture was the most popular, receiving the greatest emphasis from lay audiences and viewers. Thereafter, from the 28th century onwards, the world began to embrace an even more diverse array of culture, including 23rd century *neo-Afronomy*, the still evolving branch of post-tonality, and many others. And of course, new forms were also being created, for example India's *Visual Designers* in the 2880s.

Another unifying force was *Gaming*. Over the centuries, this concept evolved to encompass what used to be known as "sports," and various other forms of recreation.

The Olympic Games had died in the 22nd century. In 2593, more than four centuries later, the Hispaniolan Government introduced an ambitious plan to not only revived those games, but to do so at the interplanetary level! This became the *All-Solarian Games*, taking place once per decade. Provinces were enticed to participate by building a massive facility at *Trois Rivieres*. Unlike the ancient Olympics, the Solarian Games were held in a permanent location.

Hispaniola's initial motivation was to foster healthy forms of gaming among its own population, which had become enslaved over the centuries to the devastating habits of *probing* and massive use of marijuana. Thus, the games' initial focus was on traditional sports.

However, in time, they were expanded to reflect the enormous progress humanity had made in its socio- and psycho-physical conduct. By the 29th century, a majority of events at the Solarian Games consisted of socio-group events such as *community tactics* (CT), and psycho-physical participations such as *intersubjective strategies* (IS). The underlying motif for all events was the tactics-strategies relationship. Games were goal-reaching.

For example, the “Osmo” event (short for “Osmotic Introspection”) involved age-specific teams of 12 individuals, 6 humans (2 males, 2 females and 2 intersexed) and 6 bios. Group tasks were to be achieved, requiring great mental and physical skill, as well as intersubjective merging. A task might be the discovery of an algorithm for, say, preventing a simulated space crash.

Scores were based on (1) how quickly the task was accomplished and (2) the amount of energy used.

The All-Solarian games made a major contribution to the integration and unification of Solaria. Competitors came from as nearby as French Hispaniola and as far away as Saturn’s moons Titan and Shen Kuo. Different peoples had different *fortes*. For example, during the first dozen Solarian Games (until the early 28th century) ACPAn teams hardly ever failed to win events such as ***Moksha*** and ***Diminution***, where energy conservation was a major component of your score. Later, extra-terrestrials became more adept at these events, as they benefitted from training in low-gravity environments.

Awards consisted of sums ranging from ☀25,000 to over a million, and they went to the contestants’ community masters, not to the contesting individuals or teams.

For governance, diplomacy, commerce and science, a universal language was adopted - a revised form of Esperanto called ***Solanto***, with a heavy element of Spanglish. At the same time, ***simultaneous translators*** became available to hundreds of millions of people. Translators enabled you to receive in your own language, simultaneously, anything conveyed to you in another language. The technology provided perfect voice-replication, both in face-to-face conversation and in distant transmissions.

Until the late 27th century, most translators were external. Thereafter, they were increasingly implanted. By the 29th century, a growing number of jurisdictions, both Gaian and extra-terrestrial, passed laws permitting translator implant at birth, making the recipient virtually multi-lingual from the get-go.

Members of Acpan 2683 Diminution Team



To be sure there was, as always, the matter of cost: In the 2900s, a translator implant cost anywhere between ☀3,000 and ☀10,000 , a sum which only some could afford. The next best thing was to purchase an old-fashioned external translator, available for as low as ☀400 on Gaia, but ☀1500 in the colonies. And of course, many had to go without translators at all.

Finally, the 2nd half of the millennium saw the restoration of a unified world-wide Interweb for Gaia, plus the establishment of an ever-improving Solaria-wide web, called *Solax*. The system was launched in the 26th century by Hispaniola. At first, it struggled to overcome the distance problem. Communication with outlying parts of Solaria was at first difficult, and plagued by time delays, interruptions and break-downs. In time, the system improved a great deal.

Other fields: Noetic Sciences and Archaeology: I noted in Chapter Seven that until the middle of the millennium, ACPA, particularly China, was ahead of the rest of the world in the area which eventually became known as the *Noetic Sciences*. However, from Hispaniola's *Great Awakening* onward, most of the progress occurred in the Western Hemisphere. At first, Hispaniolan research was largely in the hands of ACPAn émigrés, who brought their wisdom with them, and then combined it with the dynamic creativity of Hispaniolan culture to produce great scientific advances. By the middle of the 27th century, socio-mentality - one of the key noetic sciences - was practiced at all major Hispaniolan universities. That is where most of the significant research occurred. For example, the discovery of *empathetic introspection* by *Drdus. Alondra T'Nuvah* and *Kehilat the Feminia* at the *Hadassah-Brandeis* Institution in 2687.

The other major noetic science was that of *Noetic Power*. The breakthrough in this field did not occur in Hispaniola. It did not even happen on Gaia. In April of 2769, the greatest discovery ever made outside Gaia took place in the Hispaniolan Martian city of *Borealis*. There, two mobile scientists, *Drdus. Timber the Prospero* and his bio partner *Quinquaginta Z*, had for the past five years been experimenting with *Psychal Fields*, i.e. the space inhabited by common phenomenological interaction between subject and object.

The two scientists were flying their prototype mobiloscope "*Clavius*" above the sea of *Tharsis* on their way home from a meeting with ACPAn colleagues, when a failure in the vehicle's parallel drive forced them to stop. Suspended and immobile at 6,000 meters, and rapidly approaching the setting sun, Prospero and Quinquaginta were about to freeze to death.

In a desperate attempt at applying some of their recent discoveries in noetic interaction, they moved to the two opposite ends of their ship, *Clavius*, establishing a dual-gravitational psychal field. Both scholars had entered all direction, distance, and mass data cortically before departure, as required. They were therefore able to retrieve those data and to alter them through triangulation in such a way as to link up with their home unit in Borealis, 700 kilometers away. *Clavius* then resumed its course. The two scientists' lives were saved through the first real-life application of psychal field energy. This was the birth of teleportation through noetic power.

The 29th century saw further developments in this area, when psychal field technology

was applied to the already highly developed realm of *empathetic introspection*. From the 2870s onward, great progress was achieved in communication and in the application of noetic power to fill data gaps. In time, this might bring about action at a distance and simultaneous movement increasingly feasible. Also, collective action of large numbers of widely dispersed subjects became a tantalizing possibility.

Finally, bios evolved to such a degree that total integration with humans began to appear as a distinct possibility.

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The final field whose spectacular progress during this era I wish to touch upon is Archaeology: As we saw in Chapter Six, Egyptian and Eurabian scholars made stunning archaeological discoveries during the 25th century. They proved that a highly civilized species of para-hominoid had lived in the Arabian peninsula 41 million years ago. This civilization became known as the *Paradelphians*.

This research was carried forward by Hispaniolan archaeologists (See Chapter Seven), who discovered even older civilizations in many other parts of the world. For example, a highly advanced civilization was discovered in Antarctica in 2784, a species which had existed

an astonishing 250 million years ago, and which enjoyed space travel, telepathy, teleportation and contact with extra-terrestrials. They became known as the *Gondwanans*, as they lived at a time when Australia and Antarctica were still connected, and formed part of the super Continent Gondwana.

At first, only artifacts were retrieved from the Ocean bottom - fascinating high-tech artifacts, to be sure. Then, in 2957, researchers hit the jackpot: Scientists from the UTO's Central Lab discovered a vast metropolis 4,000 meters below the surface of the Antarctic Ocean. They gave it the name of *Gondwanapolis*.

Other major archaeological discoveries already discussed include the Mid-Jurassics, a civilization which thrived 175 million years ago.

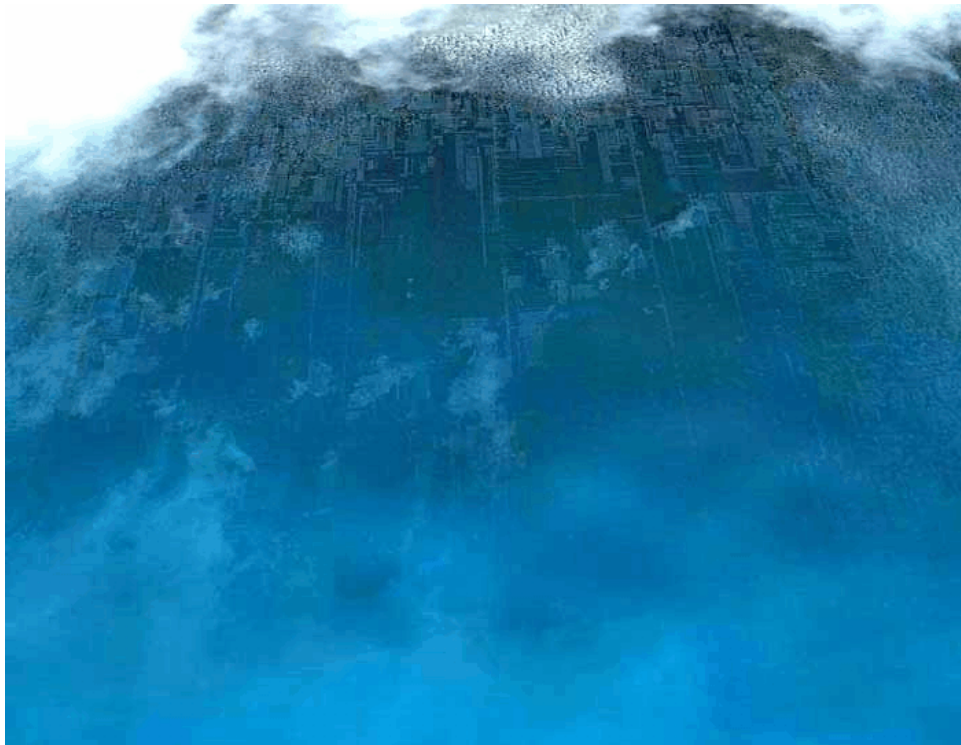
Perhaps the single most stunning discovery occurred in the late 29th century: It is that of the *Devonians*, who are estimated to have lived from 410 million to 395 million years ago. The Devonians' capabilities included sophisticated mind-altering chemistry. For example, they were able to alter the subjective experience of time, and at the same time slow down or speed up cellular decay, i.e. the aging process. Devonians inhabited all regions of the world for an unbelievable 15 million-long period, i.e. 4 to 5 times longer than *homo sapiens* thus far, and a thousand times longer than human civilization until now!

By the end of the millennium, it became apparent that humanity had been preceded on Earth by innumerable civilizations, and that every one of these had succumbed eventually. Scientists were unable to explain why this was so, and to say whether humanity itself was also doomed. Many socio-historians were *neo-Sorokinians*: That is, it was agreed upon that social evolution is cyclical, going through a number of stages. The following stages were identified: (1) idealistic, (2) ideational, (3) sensate, (4) Spartan, (5) high-tech, (6) post-modern, (7) green, and (8) fatal. But there was much debate and little agreement as to the exact sequence of the stages,

whether all of them must occur in each cycle, and above all, about the direction of cyclical evolution.

At the end of the millennium, Solaria was divided into two camps: neo-Sorokians, and their opposite, the “*progressives*.” The former were dominant on Gaia, while the latter tended to prevail in the new regions, i.e. in the colonies. The neo-Sorokians saw in archaeology an inescapable lesson and a warning. They advocated a return to greater spirituality and a slowdown in technology and in the conquest of space. The progressives tended to denigrate the findings of archeology, and wished to push forward with the development and colonization of space, being more optimistic about the prospect of long-term human survival.

The City of Gondwanapolis, discovered in 2957, and 250 million years old



9. 3000-6000: GAIA AND SOLARIA

1. Introduction: At the turn of the 4th millennium, Gaia and the rapidly expanding Solar Federation were poised for centuries of continued progress. And indeed, the following 800 years were by and large a period of progress and scientific improvement for a majority of the population.

Thereafter, however, the solar community began to face increasing difficulties in solving its problems. By the late 3900s, there was a marked increase in disorganization. The three principal reasons for this were (1) hubris, (2) data overload and (3) the Exozon attack.

The difficulties finally came to a head in the year 4066. The event which precipitated this was the collapse of the Great *New Pallas* Nerve Center. New Pallas was the chief communication hub for Solaria's middle sphere, located between Mars and the Asteroid Belt. Its destruction occurred exactly 3000 years after the Battle of Hastings. While it was not, by itself, responsible for the Solaria-wide stagnation which was soon to set in, both the event and its timing were symbolically charged. Historians would henceforth refer to Solarian history as consisting of the Pre- and the Post-Pallan eras.

The Post-Pallan era became the age of *Scientism*. The fifth millennium saw the rise, the triumph and the reign of this rigid outlook. In time, it became an intolerant dogma which caused wars, repression, massive cerebral controls and cortical reassignments, practices which continued

well into the 5100s. The center of gravity of this civilization was Mars, particularly the capital *Borealis*.

What sustained this regime and explains the absence of challenges to it for so long, was the perennial threat of the *Exozon*.

In 4160, a cosmic wave force began to invade Solaria, providing a growing threat to the external regions, and requiring increasing counter-measures for centuries to come. Had it not been for the Exozon pressure, Solarians might have liberated themselves from the shackles of Scientism sooner. Thus, the Exozon contributed, in a negative fashion, to an unquestioned cohesion and subservience among Solarians which lasted well into the 6th millennium. Only in the 52nd century did a culture of humanistic tolerance and diversity re-emerge.

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Solaria's administrative re-organization reflected the historical fluctuations just mentioned. In the early 4th millennium, Gaia, the Moon, Mars and the external regions all made the transition from distinct identities still tied to Gaian subdivisions, to global identities.

During the 32nd century, Solaria adopted a new administrative structure called the *Dual System*: The entire realm was divided into approximately 112 *Phyles*. These, in turn, were subdivided into *Demes* (of which there were initially about 13,500).

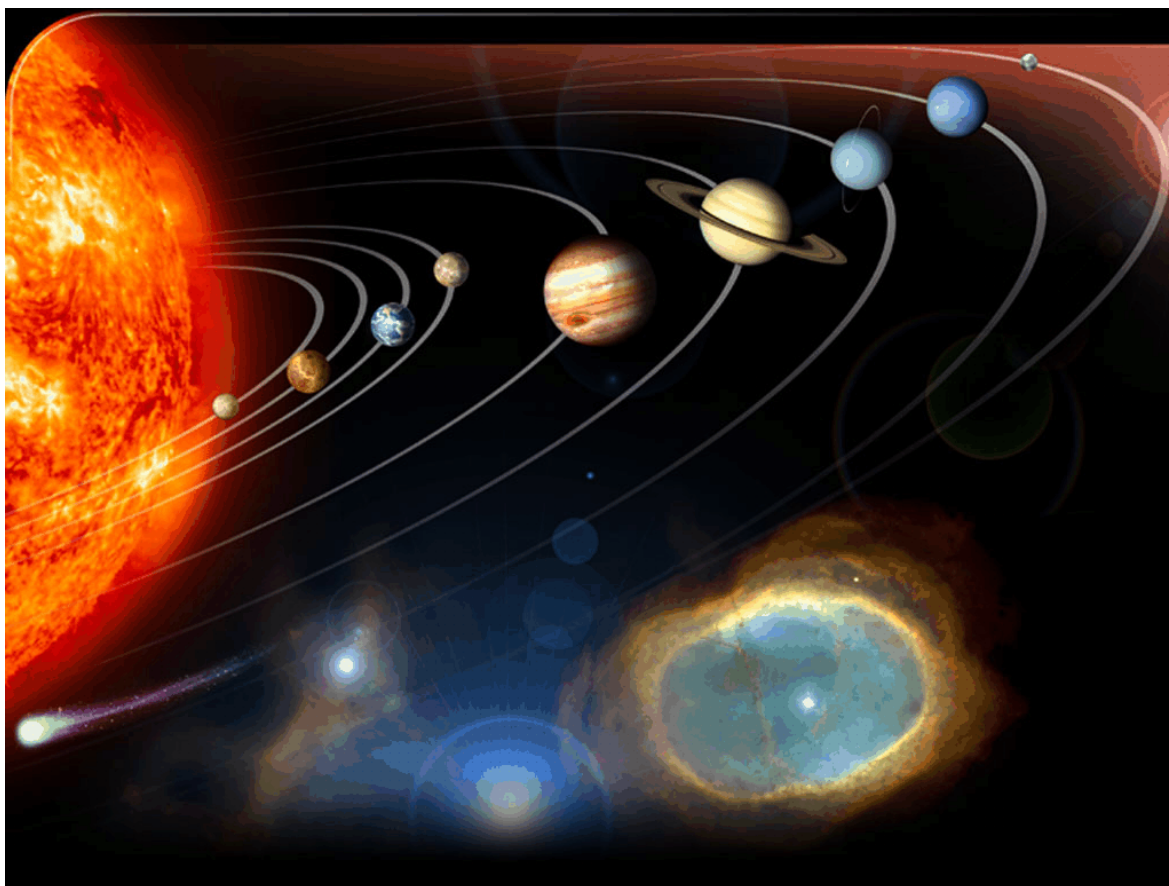
At first, many Phyles and Demes were still associated with Hispaniola, or ACPA, or Eurabia, or India, or some other specific Gaian region.

However, by the 3200s, this was no longer the case, certainly not in any official sense. During the 4th millennium, Solaria was administered under one unified global government. For the past two centuries, this had been the United Terran Organization (UTO). In 3059, the UTO changed its name to *United Gaian Organization (UGO)*, which continued to administer all of Solaria until 3134, out of Greenlandia. But in that year, the UGO's jurisdiction was cut back to just Gaia. For the administration of extra-terrestrial Solaria, a new government was created, namely the *United Solar Organization (USO)*.

However, in Post-Pallan Solaria (5th millennium), new cleavages emerged. During the Age of Scientism, two competing centers of gravity arose: The dominant center has already been mentioned. Scientism, which ruled over most of Solaria, was headquartered in the Martian capital of Borealis. That city became the seat of power, science and economy. However, there remained a competing cultural center, located on Gaia, and centered in Greenlandia. There, some diehards labored bravely to preserve the culture of openness and creativity which had been the hallmark of pre-Pallan civilization. Conflict between the dominant Martian power and the Gaians was frequent. The latter were oppressed and victimized, but they persevered.

The Age of Scientism came to an end in the early 52nd century. Solaria was then reorganized in a manner reminiscent of, although not identical to, what it had been during the Pre-Pallan era.

Solaria (not proportional distances)



2. Political Divisions and Conflict: In the beginning of the 31st century, Solaria was served by a federated world government headquartered in Greenlandia.

By the 34th century, Solarian society had grown very large and complex. In the 3350s, Gaia's population was stable at 9.5 billion, 90% of them full-fledged humans. Thanks to wise energy, environmental and reproductive policies, this large population was sustainable - as long as it did not grow. Antarctica had been settled and populated and anti-matter technology provided cheap, safe and clean energy.

The Martian population had increased to over 2 billion. It continued to grow rapidly, creating some of Solaria's most densely populated cities (For example Borealis, Pin Yunan, New Acadia and Acpolia, each with over 2 million people). Much of the Martian population was subterranean, particularly in cold regions such as Borealia and the Olympic Plateau.

The organization of the Asteroid Belt was a success. Altogether, Ceres, Vesta, Pallas and Hygiea had a population of 2.6 million colonists, half of whom were bios.

Jupiter's moons were less amenable to colonization, due to extreme radiation. Io merely served as Solaria's garbage dump, while Europa, Ganymede, Callisto and several others were used for mineral extraction rather than for permanent settlement. The overall population of Jupiter's moons never exceeded 500,000 - 80% of whom were temporary bio workers.

Some of Saturn's moons were difficult to colonize, due to temperatures reaching 250 degrees below zero. However, those possession geothermal sources - Titan, Shen Kuo, Phoebe,

Enceladus, and a few others - were good prospects for colonization.

Gaian presence on Uranus' moons was even more experimental, comparable to human presence in Antarctica in the 21st century. Only Oberon, Titania and Ariel had human presence, while bios were sent to a few others.

By far the most populated Solarian was our own Luna, whose population was approaching ten million, two thirds of them bios.

During the next five centuries, Mars' population grew to 8.4 billion, approaching that of Gaia, whose population was statutorily limited to 10 billion. The Asteroid Belt also experienced rapid demographic growth - to a total of 90 million bodies - one third human and two thirds bios.

During the latter half of the millennium, the colonization of trans-Martian areas benefitted from advances in temperature control. The population of some of Saturn's and Uranus' moons grew significantly, particularly that of the genetically sturdier mixes and, of course, that of bios.

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During the 4th millennium, Solaria's political and administrative structure evolved into a bi-polar system with two major centers of gravity at the hub - Mother Gaia and Filian Mars. By the turn of the 31st century, Earth was generally referred to as Gaia or "Mother Gaia." At the same time, Mars gradually became known as "Filian Mars," or simply *Filius*, and Martians were increasingly referred to "Filians."

During the following eight centuries, Solaria functioned effectively as a dual but well-balanced socio-scientific structure. Gaia remained the center of *political* and *cultural* gravity. Greenlandia remained the seat of the central Solarian Ministerium - called UTO (United Terran Organization) until 3059, UGO (United Gaian Organization) from 3059 to 3134 and supplemented by the USO (United Solarian Organization) thereafter.

At the same time, Mars and its growing scientific cities - Borealis, Pin Yunan, New Acadia, Acpolia and others - became the vanguard of scientific and economic might.

The tension caused by this duality was easily managed, seen by the vast majority of Solarians as an efficient division of labor rather than a competition for power. There were occasional minor grumblings among some Filians, who averred that Gaia was out to maintain hegemony over other planets. An occasional cry for Filian equality was heard. However, concessions such as the creation of the USO took care of any nascent discontent. Nor was it clear to anyone what "Filian equality" meant. After all, per capita income on Mars exceeded that on Gaia.

It was in response to mild Martian (and occasional trans-Martian) discontent, that Solarians created in 3134 the USO, the organ which would now administer all Solar territories *outside* Gaia. The UGO remained in place, but its jurisdiction was henceforth limited to Gaia. This satisfied everybody, despite the fact that both the UGO and the USO remained seated in Greenlandia.

With the USO in place, Solaria could now turn to the vital task of re-organizing its entire administration. After all, Gaia and its far-flung dependencies were no longer divided on a national basis. "Hispaniola," "ACPA," "Eurabia," "India" and other such units had become mere cultural entities. They had no more political existence than, say, "the Midwest" or the "Deep South" did in 21st century America.

In 3159, three thousand delegates from all sectors of Solaria convened at Geneva in order to design a new administrative structure for the entire realm. This became known as the

Dual System. For the next 8 centuries, it provided Solaria with peace, stability and growing prosperity. Only toward the end of the millennium did the tensions resurface, pitting Gaians against Filians. That phase will be discussed in the next section. I first turn to the Solarian reorganization achieved in the 32nd century, which served all Solarians for so long, and so well.

3. 3000-4066: The Dual System: The Solarian reorganization into the Dual System in 3159 divided the entire realm into 13,500 **Demes**.

The average population of a Deme was a million, ranging from fewer than 10,000 to nine million. In time, the number of Demes increased to over 15,000. Before communities achieved deme status, they were called pre-demes. This was largely a matter of size. A community with only a few hundred members could, of course, not operate independently. Communities therefore had to (1) demonstrate autonomous functionality and (2) reach a minimum size before being granted deme status.

Solaria's Demes were grouped into **Phyles**. The average phyle contained over 120 demes, with an average population of 120 million. Altogether, Solaria's 14.5 billion individuals were grouped into 112 phyles. The genius of this administrative realignment was that it was "vertical," not horizontal." That is, instead of separating the inner areas of the system from the outer areas, it tied them together.

All phyles were either Gaian or Filian connected, but not all demes were. A vast majority of demes (11,205, or 83%) were located either on Mother Gaia or on Filial Mars. These included the largest demes - some with populations of several million. For example, the population of the Manhattan Deme, which included both Manhattan and Nassau Island, was nine million. That of Borealis was four million.

Luna, asteroids such as Ceres, and the other inner orbiters consisted of approximately 1700 demes, with populations ranging from over 200,000 to under 10,000.

The remaining 600 demes were trans-Martians. As far as Jupiter is concerned, initially none of its moons could harbor sufficient populations to warrant Deme status. However the more recently explored Da Liu Ren, dotted with methane lakes such as Nijamina, turned out to be more hospitable. Also, the United Solar Space Authority built around Jupiter the large artificial orbiter ***Federata***, begun in 3196 and completed in 3288. By the middle of the 33rd century, Da Liu Ren and Federata both had thriving small demes.

The settlement of Saturn's and Uranus' moons was more successful than that of Jupiter's. There, the number of demes and pre-demes grew rapidly, reaching nearly 200 for each of the two giant planets. To be sure, most of these settlements were only pre-demes, ranging in population from 6500 to just a few hundred.

Finally, there was the gradual colonization of TNO's - Trans-Neptunian Objects located beyond 30 Astronomical Units from Gaia and Filius. Solarians established small colonies on Neptune's Triton, on some of its other moons, and on some of the Kuiper Belt's dwarf planets (Pluto and Charon), as well as on some of its asteroids. By the early 37th century, the total number of such settlements on TNO's was about 200, none qualifying for deme status.

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The ***Projuegos Phyle*** is a good example of a typical medium-large phyle: Founded at the very creation of the Dual System in 3159, Projuegos was a Gaian phyle based in Bolivar province. Projuegos controlled 126 demes and 11 pre-demes. Its total population was 140 million, including that of its pre-demes. 89 of its demes were on Gaia, all located in the Amazonas and in the Endes. 19 of its demes were on Filius, all in Borealia. Its remaining demes were located on the asteroids (5 demes, of which 4 on Ceres), on Da Liu Ren (4), Shen Kuo (2) and on seven other trans-Martian moons (1 on each). Finally, Projuegos had 11 pre-demes on two remote TNO's discovered in 3135 and named Kis-A and Kis-B.

Each phyle was a “vertical” connective system, and the 112 phyles combined together to form the vast communication network which became known as the Dual System, and which administered Solarian society. Partly in order to satisfy Filian demands, partly because this seemed the most effective way to go, it was decided at the Geneva Convention of 3159 to create two headquarters - one in Greenlandia run by Gaian scientists and the other one in Borealis, run by their Filian counterparts.

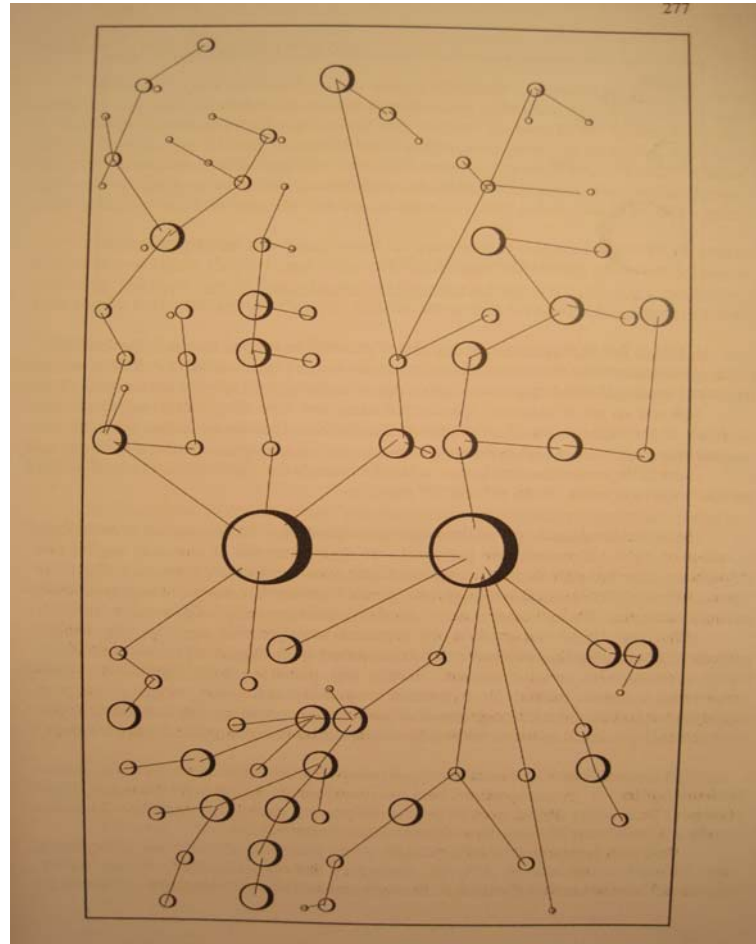
4. Life in Pre-Pallan Solaria: Jonasi: The 4th millennium became known as the Pre-Pallan epoch, in reference to the destruction of the New Pallas Nerve Center in 4066, the disaster which symbolizes the end of that long period of progress.

This was an era of vigorous space organization and vast oxygenation campaigns in all quadrants of the solar system. The frontiers of the Solarian Confederacy receded ever further towards the periphery of our star system.

Some of the campaigns were heroic, as was for example the organization of Uranus's moon ***Jonasi***, which took much of the 34th and 35th centuries.

Jonasi was considered one of the most promising satellites for colonization, as it was large (a radius of 1200 kilometers), and possessed an atmosphere rich in dioxygen, sulphur and phosphorus. The prospects for massive photosynthesis were excellent. In 3341, the United Solar Space Authority (USSA) decided to oxygenate Jonasi. To this end, it sent out a team to establish an initial settlement. The settlement's name - ***Verda*** - was an expression of hope rather than fact.

The Dual System: 32nd to 39th century



Legend:

◻: pre-demes

◻: small demes

◻: large demes



: Mother Gaia and Filial Mars

When the USSA undertook a new organization/oxygenation campaign, the standard procedure began by sending an advance task force consisting of a brigade-size contingent of bios, led by a company-size group of humans. Initially, this population lived in protected - often subterranean or domed - habitats. As oxygenation progressed over the years, the group's size grew through natural accretion and through import of additional personnel. In some cases, the colonists were able to begin natural existence within a few decades. Elsewhere, the process took much longer.

The story of Jonasi is illustrative: Appointed as Chief of Operations in 3341 was **Drdus. Celestial Lafitte**, a psycho-geneticist from the Amundsen-Scott Center in Antarctica's Noor Province. That is where she had spent 14 years developing eco models for Antarctica. Eminently qualified, Celestial was 37 years old at the time of her appointment.

Despite the greatest effort and dedication, the organization of Jonasi was painstakingly slow. Thirty-three years later, in 3374, the atmosphere had only reached 29% bio survivability level, and 5% human survivability level. A bio could survive for 90 minutes outside the habitat, a human for no more than a quarter of an hour.

Celestial was now a beautiful, mature woman. She stood 2.20 meters tall and weighed a svelte 105 kilos. As a youngster, she had been an outstanding athlete. She once won a marathon in 1: 48, only 10 minutes above the world record. She was now 70 years old, but her athleticism, her physical beauty and her fabulous personality were as impressive as ever. Her sleek silver-white long hair framed a tan face with piercing blue eyes and a mouth with a slight hint of a smile. Whether talking to colleagues, to bios, to lowly assistants or to haughty Filian envoys, she conveyed honesty, understanding, integrity and empathy. She was an inspiration to all, and enjoyed everyone's respect.

Unfortunately, Jonasi's oxygenation was not going well. During the fall of 3374, the USSA decided to send Drdus. Celestial some "help." She understood immediately that the word was a euphemism. She knew that the Space Agency was preparing to hand over the reins to someone else, while keeping her on the team *pro forma* by kicking her upstairs to some public relations position.

The "help" arrived in April of 3375. His name was **Drdus. Angkor Julius** - a 59 year old scientist. Julius was trained at the Hispaniolan Photosynthetic Institute in Ciudad Bolivar, and he subsequently ran the Martian Photosynthetic program. He was attractive, intelligent, patient, and extremely cooperative.

Even so, Julius' arrival on Jonasi did not bode well. No sooner were he and Celestial sitting side by side in the shuttle carrying them from the spaceport to headquarters in Verda, than sparks began to fly.

"So Dr. Angkor," Celestial asked, "you plan to apply the Martian photosynthetic model to Jonasi? Surely you understand that this will in no way speed up oxygenation in Verda!"

“My mind is a blank,” Julius answered diplomatically, adding: “I am here to assist, and I am open to all options. Progress has been slow during the past three decades. Your efforts have been valiant, but Jonasi seems to present special challenges.”

“Please, don’t patronize me,” Celestial shot back. “It is quite clear to me that the USSA is beginning to look for a fall guy...”

“I wouldn’t dare to patronize you, Celestial.” Julius protested. “Scientists throughout Solaria recognize you as one of the century’s greatest....”

“Thanks for the compliment, and sorry for my outburst,” she responded, somewhat mollified, whereupon Julius continued:

“...However, don’t you believe that, after three decades of stagnation, you can use all the help you can get? You remember what the Universal Gaian Declaration says about *hubris*...”

This again infuriated Celestial, who angrily told Julius that she did not need a lecture about the Universal Gaian Declaration. The remainder of the ride to headquarters took place in icy silence.

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There followed several difficult months. Jonasi’s oxygenation campaign was now under the official leadership of Angkor Julius, with Celestial as second-in-command. Their relationship was frosty but civil. Despite a number of new departures, the situation on Jonasi did not improve.

At the end of the year, Angkor threw in the towel. He approached Celestial and said:

“Look, I have not made one iota of difference since my arrival. You have the experience and the knowledge without which I am utterly helpless. Today, I am asking the USSA to place you formally in charge again, and I humbly request to become your second in command...”

The USSA acquiesced. For the next seven years, Celestial and Angkor became inseparable colleagues and friends. They worked tirelessly on a variety of approaches to speed up Jonasi’s oxygenation. The people of the small city of Verda had nothing but admiration for the two consummate scientists, who were seen spending 20-hour days in their labs and week-long testing forays into the wilderness.

Alas, the situation not only failed to improve, but in 3383 things actually got even worse: Survivability levels began to decline. It became practically impossible for humans to venture outside their habitats *au naturel*, thus leaving most of the important tasks to the bios, whose indispensability gave them increasing power.

In September of that year, the USSA decided to cut its losses. It moved to shut down

Verda altogether, and they offered to relocate the entire population - to Gaia for those who wished it, elsewhere in Solaria for anyone who preferred that.

By then, the city's population had grown to 39,000 bios and 6500 humans. There was a strong community bond. A strong psychal field bound Verda together, including its members and its two leader-scientists. Celestial, now 79 years old, remained dynamic, indefatigable and positive. Angkor, eleven years her junior, had undergone a metamorphosis. He had turned into a true frontier man, tough, generous, fearless and outgoing.

Within a few hours of the Space Agency's communication, the two scientists came to an intuitive agreement as to how to respond. Celestial spoke for both of them, when she said:

"Verda has been our home for 42 years. We belong here. One way or another, humans *will* live on Jonasi. We will not leave, and we will not give up."

The agency was stunned, but it was not prepared to confront the colonists. Angkor jumped in to back up his colleague, saying, cryptically:

"Jonasi is our destiny. If the environment refuses to be altered, we shall meet it halfway."

During the Fall of 3383, Celestial and Angkor operated on two fronts: On the one hand, they negotiated the best possible deal with the USSA. They requested a continuance, which they got. The agency did not order the colony's shut-down, but it stopped funding the oxygenation campaign. Verda was now on its own. It could expect minor supplies from Gaia and from Filius. At the same time, the two scientists moved to strengthen Verdian society, bracing themselves for the ultimate survival test. On New Year's day, Angkor approached his dear friend and colleague as follows:

"You have been my best friend for eight years. You are the most beautiful and intelligent person I have known. I fell in love with you only moments after I landed on this godforsaken moon. Will you please be my wife - for my sake, for our sake, and for the sake of all Verdans?..."

She interrupted him, laughing and joking:

"...as long as it is for Verda's sake, I will accept."

And then, speaking right through his fumbling protestations that he loved *her*, and that he was not proposing a political marriage, she became more serious:

"I am way ahead of you, dear friend. I, too, find that the time has come for us to become wife and husband. Verda's survival depends on its foundation. We are our small world's inspiration and foundation. I love you more than you can know."

Celestial and Angkor were married on January 17, 3384. In the fall of that year, they gave birth to twins - a son whom they named Marcus and a daughter, Semiramis.

* * * * *

During the next 15 years, Verdans lived a harsh life. Surface duty was mandatory and universal. Celestial and Angkor made sure all who ventured outside were equipped with a *Gillon*, a oxygen-activator attached to the lungs.

Even so, surface duty took a frightful toll. Bios handled it better than humans, but both suffered a great deal. All bios served the same amount of time on the surface, but humans could volunteer for extra duty. Those who did had a much shorter life expectancy than the rest. Some were genetically compromised, and their DNA was replicated in their offspring.

The Gillon: Oxygen Activator



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February 23, 3402 was a cold winter day. At 9:00 that morning, Angkor and his son Marcus left Verda for a routine reload of the Northern oxygenators. Marcus was now a sturdy

16-year old boy. He had inherited Celestial's features, and stood an imposing 2.35 meters tall.

Father and son glided their hovercraft to Alpha Station in less than an hour, and after reloading the oxygenator, they continued to Bravo Station, which they reached in the early afternoon. There, they repeated what they had done at Alpha a couple of hours earlier, i.e. they activated their gillons, exited the hovercraft and began the reloading process.

Presently, both men began to experience difficulty breathing.

"Let's get back inside the hovercraft," Angkor said.

Trouble, as they say, comes in packages. The two men walked back to the hovercraft, Marcus getting there five minutes ahead of his father. As the latter was approaching, exhausted and breathing heavily, his son shouted:

"Dad, the cockpit won't open!"

Both men pressed on their keys, repeatedly and frantically.

"Dammit!" Angkor exclaimed, "what are the odds of *both* the gillons *and* the cockpit malfunctioning at the same time!"

He immediately proceeded to call Verda for help, and he instructed his son:

"If we wait here, it'll take nearly an hour for them to get here. I told them to pick us up at Charlie Station. It's a 20-minute walk from here, and it has an oxygen room."

"You can't walk there, dad!" Marcus protested. "You're already exhausted."

"We have no choice," Angkor replied. "We won't last an hour."

The walk to Charlie Station was an ordeal. Angkor was fading fast. On Jonasi, a healthy man can walk 15 kilometers in an hour. However, Marcus and his father were now doing less than a third of that, and steadily slowing down. Presently Angkor sat down, telling his son that he needed a break.

Marcus refused. Instead, he slung his father on his back and began to carry him.

"You have your mother's superhuman strength," Angkor mumbled from Marcus' back.

Fifteen minutes later, Marcus said:

"There it is, dad! I can make out the station portal already. We'll be there in a few minutes..."

There was no response from Angkor. With all the energy he could muster, Marcus ran into the station's oxygen room, laid down his father and activated the system. Angkor was no longer breathing. After a desperate effort to revive him, Marcus realized that Angkor has passed away.

* * * * *

The following months were difficult, as well as uplifting. Celestial, now 98 years old, did not cry. She was satisfied that she had enjoyed a long and fabulous life side by side with a great friend and a great husband.

Her main concern was to make sure that Angkor's death was not in vain. She knew that Marcus' survival was not due to his exceptional stamina. There are no miracles. As a psychogeneticist, Celestial had long known that oxygen activation was made difficult by the presence of an O4 allotrope. She tested and examined her son, and confirmed her hypothesis: he was the lucky beneficiary of *mutation!*

Having confirmed her son's mutation, she now began in-vitro experiments with a number of bios first, and then humans. By 3403 several hundred bios and a dozen humans were genetically converted. A decade later, nearly half of all Verdans were able to survive *au naturel* outside the habitat.

Celestial died in 3416, at the age of 112. Marcus delivered her eulogy, crying. His concluding words: "She brought humanity a giant step closer to infinity, to Omega."

The survival of Verda and its future generations was now assured. Jonasi was a vibrant and growing society. During 35th century, many additional cities rose. Everyone on Jonasi was still referred to as a Verdian. Verdans were known throughout Solaria as exceptionally intelligent and functioning at the highest level of effectiveness.

Their great national heroes were Drdus. Celestial Medium and Drdus. Angkor Julius, the founders and saviors of Jonasian society. Celestial University is Jonasi's principal university, and it is one of Solaria's best. The greatest contribution made by Verda and its leaders was not the creation of a race which was able to survive in an alien environment by mutating to it, but the creation of a community with the strongest collective bond and consciousness in the entire solar system. Jonasi was showing to the rest of Solaria the road to the future.

* * * * *

The story of Jonasi was spectacular, but not unique. The 4th millennium was an era of progress and creativity throughout Solaria. The conquest of space was accompanied by a great cultural and scientific efflorescence - much of it emanating from Mother Gaia.

There, as far back as the 27th century, the great scholar Yo-Jung Chen and his team at the Boston *New School* had discovered ways to bridge mind and matter. However, the work was theoretically strong but practically weak.

Also, Chen's work was misunderstood. For centuries, corporate advertisers and charlatans used and perverted Chen's revised Dharma in their lucrative practices. For example, during the 31st century, a popular neo-Chandrist Guru's slogan was: *No knowledge without Love*. He managed to fool millions of followers, robbing them of their savings, and achieving at best a mild placebo effect.

However, scientific progress accelerated from the 3200s onwards. A break-through occurred in December of 3493: A Hispaniolan scientist named *Drdus. Panamini* and his assistant *Zimbio* were working in one of the New School's labs where they had been conducting audio-telepathic experiments. Panamini turned to his assistant and indicated, subverbally:

"Zimbio, can you read me? I'm starting Beethoven's Moonlight Sonata in my head. It should be streaming your way from the speaker..."

"Loud and clear," Zimbio replied, "Cool! But don't overdo it. Remember Dr. Jonas' brain aneurism last year."

"Don't worry," Panamini said, then continuing: "What do you hear now?"

"Well..." the assistant ventured, "you're doing it in E major, but if I recall, it should be C sharp Minor..."

"Bravo!" the professor exulted. "And what are you going to do about it?"

Zimbio quickly went to one of the audio booths, played the first ten bars of the moonlight Sonata, then rejoined Panamini, put his headset back on, and concentrated on the correct - C sharp Minor - version.

Panamini promptly heard it, and corrected his own tune.

From then on, the possibilities became limitless. During the next few months, the two scientists were able to fuse their musical thoughts together, alternate, exchange passages back and forth, form a veritable duet. Then, additional participants joined, and the duet grew into a trio, a quartet, and so forth.

Telepathic *mindings* had been perfected. Zimbio spoke for everyone in the lab when he said, a few months later:

"What we do here is not just science. It is the fusion of science and art. It is *mindings*."

To which Panamini replied:

"Yes. And *that* is the true meaning of 'love and knowledge'. Now all we have to do is change all of Solarian society accordingly.

* * * * *

By the second half of the 36th century, Panamini's wish was coming true. For example, in the summer of 3567, a Martian colonel by the name of *Klee-Tomas* landed at Cape Hatteras spaceport for his first (and probably last) minding stage on Gaia. This was a privilege, as he was an Exo.

Typically, the only space colonists who did their minding stages on Gaia were those born on Gaia. Exos usually did their stage virtually - without actually traveling to Gaia from their home, although upper-echelon exos did often receive on-site training in minding. Tomas was one of those. His seven brothers and sisters all had to stay on Mars and get their training virtually.

Upon completion of the five-months training course, trainees took an extensive test, and if they passed, they returned home in possession of a diploma with the words *FROM GAIA WITH LOVE* beautifully engraved on the cover page.

During the following decades, the number of people undergoing minding training grew by millions. It became absolutely essential for any leadership position.

* * * * *

Another break-through happened in 3654. It took place at the Canberra Hemispheric Center, where Panamini's mind-merging techniques were being refined. A scientist by the name of *Gabi Dingo* had recruited several dozen *abo* subjects for the next phase of her research. She wanted a homogeneous sample, and one consisting entirely of native Australians, who tended to score exceptionally highly on most empathy scales.

The experiment was one in parallel thinking. The 40 subjects were hyperlinked, and then hermetically separated. No joint stimulus was given whatsoever. Each subject was instructed, in full isolation, to summarize the history of the return of aboriginal rule to Australia (which occurred during the 27th and 28th centuries), and to write a fictitious alternative scenario.

The results were astounding: Every single respondent came up with exactly the same two narratives - identical to the very last iota. The group acted as if it were one giant brain.

Drdus. Dingo was ecstatic. He knew what the next phase had to be: Would a group be similarly in total sync even if only some, or perhaps just *one* of its members were programmed?

Within a year, the answer to this question was in, and it was a resounding "yes."

* * * * *

It was not long before mind-mergers were being applied to the solution of real-life problems. In 3687, the Martian city of Borealis was struggling with a group of violently unassimilated bios passing as humans. They had perfected false identities that made them practically unrecognizable.

The Martians asked Drdus. Dingo for help. He traveled to Borealis, bringing along over 100 *abo* assistants from Australia.

Dingo and his team spent the next 6 months roaming around Borealis under-cover and chatting randomly with anyone and everyone in public places. What none of their interlocutors

knew, was that whenever anyone conversed with one of Dingo's assistants, he was in fact conversing with 100 people, as the entire group had melded together before its arrival.

And although bios were able to mimic humans in nearly every way, their Achilles heel was the fact that, unlike humans, they could not interact simultaneously with a collective larger than 15. That is how Dingo and his assistants unmasked the malfeasants. Once they identified one, a trail led to others. And there was no need to approach any of Borealis' 300,000 bios, since the problem resided with those few passing as humans.

* * * * *

The progress in transformation and replication technology was as rapid as that in *minding*: Recall that Hispaniolan communication scientists at Cordoba Exact University developed in the late 27th and early 28th centuries a rudimentary transformation mechanism. This discovery, in turn, was rooted in early virtulife technology.

Less than a millennium later, the technology was perfected to the point where millions were able to "get in and out," as transformation hardware became less and less expensive. To be sure, transformation was limited by distance. One could only undergo internal-external transformation within about one meter from one's point of origin.

There were accidents, some of them fatally gruesome. And there was abuse: Some people opted for permanent transformation in order to alter their identity after they had done something bad. However, transformation was well regulated in most jurisdictions, and by and large it provided humanity with a marvelous new freedom.

A significant event in the history of transformation technology occurred during the summer of 3725:

Kekkonen and Polar were two identical twins who lived at their family estate in Finlandia. Theirs was one of the major regional families, controlling over one third of Gaia's extra-terrestrial exports of northern thermals.

Polar and Kekkonen had access to their clan's state-of-the-art transformation lab, and the very expensive programs. They decided to conduct an experiment which had already been achieved successfully by others, even though it carried risks. Namely to "go in" and to temporarily come out as each other's substitute. Being identical twins, they believed that they could be particularly successful at achieving such a transformation-substitution. The plan was to go back in and to resume their own identities after 3 days.

The initial phase was a success - and then some: The transformation and identity switch not only went well, but it came with a bonus:

When Polar came out, he saw himself standing by his pod, and he immediately realized that what that person looking at him must in fact be seeing, was beautiful blonde Kekkonen, and not a lanky, bald Polar.

"Wow!" he exclaimed in a melodious soprano tone, "I am you!"

“That’s true,” the twin exulted with a manly voice, “but we are still ourselves, too!”

The twins now felt the full effect of transformation-without-memory-loss, something they knew was part of the deal. It was a well-known fact that transformation did not erase memory. But to experience dual personality for the first time was mind-boggling - not to mention disorienting.

The tragedy came 3 days later, when they tried to return. Somehow, Kekkonen was able to re-convert to herself, but Polar was not.

When they both came out again, they were shocked to discover that there were now two Kekkonen, at least psychologically.

In panic, they went to the Tampere Medical Center for help. Diagnosticians discovered that Kekkonen was implanted and certified for transformation, but that Polar had never received the final implantation, which only happens after the successful completion of training.

The case was widely publicized. It was too late to repair the “mishap.” Kekkonen and Polar were doomed to live on as two identical sisters. However, the tragedy led to legislation at the highest level. In 3726, the Gaian Medical Council enacted *Omega Norm #3726*, which regulated Transformation.

One of the Norm’s clauses dealt with transformation teaching and training. It became illegal to undergo transformation without certification. And in order to become certified, it was necessary to have been both teacher and trainee.

This was in line with established pedagogical principles. The people of the 4th millennium knew that the student-teacher relationship is as mutual and interchangeable as that between speaker and listener. One cannot be one without also being the other.

* * * * *

By the second half of the 4th millennium, 98% of all Solarians were vegetarians. The few remaining exceptions consisted of small bands living in isolation on Gaia. For exos, meat was not an option. Smuggling meat into the colonies was a serious crime.

The human phenotype became a tall, thin and practically hairless body. Average height exceeded 2 meters, but body weight was rarely over 95 kilos. The genders looked nearly alike. Heterosexual men were slightly larger than heterosexual women. Between those two categories, in terms of size, were gender-neutrals, permanent homosexuals and sexual variants.

Fully one third of the population’ sexual preference changed over the life cycle. Many alternated their preference over time, while others were ongoingly bisexual.

A majority of children were conceived and delivered in vitro. Parenting was unrelated to sexual preference. Child rearing was institutionalized for the most part. The bond between guardians and children in their charge was limited, comprising two essential elements: (1) legal: a child and its guardian(s) were tied to each other in terms of a variety of legal rights and

obligations, and (2) at least during a child's early formative life, it spent a limited amount of time interacting with its guardians, thereby receiving their imprint.

5. 4066-5150: Scientism and Post-Pallan Decline: by the end of the 40th century, Solaria began to face increasing challenges. As was mentioned in the introduction, three factors converged to put an end to an era of unprecedented peace, prosperity and expansion which had lasted for more than eight centuries. These can be summed up as (1) hubris, (2) data overload and (3) the Exozon attack.

A. Hubris: Only gradually did hubris become a pervasive attitude among Solaria's ruling elite - no doubt partly owed to their long and uninterrupted successes. As scientific progress translated into a greatly improved quality of life in an ever expanding solar community through the centuries of the 4th millennium, fewer and fewer things seemed impossible to humanity. Optimism and belief in unstoppable progress became unquestioned. In time, this led to carelessness and breakdowns.

The center of gravity for this attitude was Martian Filius which, by the 36th century, was beginning to eclipse Gaia as Solaria's commercial and scientific center. Gradually during the latter part of the 4th millennium, Solaria's economic center of gravity moved towards Borealis, the Filian capital.

On a purely technological level, the Red Planet was becoming more up-to-date, more efficient. Mother Gaia's role became more and more that of a consultant. That is where the major Analytic Centers remained. However, implementations and applications occurred increasingly in the great research centers of Borealis, New Acadia, Acpolia, Pin Yunan and other Martian cities.

There, reductionism reigned supreme. By the 39th century, it had even taken over the socio-communicative and noetic fields. The psychological sciences moved away from phenomenology, and instead embraced neuro-genetics and noetic chemistry as they had never done before. New compounds were designed, based on such ancient mind-altering substances as *Mescapromine* and other MAO inhibitors. New energizers were developed, based on the primitive chemo-radial irradiation techniques which had been used during the early phases of colonization.

In addition, while USO headquarters remained in Greenlandia, much of the conquest of space and its military aspects emanated from Filius. The International Space Organization Administration (ISOA) and the United Solar Space Authority (USSA) were moved to Borealis in 3778. By the middle of the 39th century, Filius possessed more bases, space ports and space units than any other planet, including Gaia.

By the late 3800s, technological reductionism had taken over most Filian science. Thereafter, it expanded to the rest of Solaria as well. Only on Gaia did significant communities of scientists hang on to a critical perspective, most of them working at Hispaniolan and ACPAn

centers. The rapid spread and popularity of reductionism was caused by its positive and pragmatic appearance. It was in the service of unbounded space expansion, optimism, mineral extraction and species eradication.

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For example, Solaria never forgot that it had a score to settle with Haumea's crystallines (See Chapter Eight, Section Six). The tragic fate of the Halevy-Luric expedition (2942-2956) had left the distant dwarf planet Haumea uncolonized, uncolonizable, and in the hands of a hostile crystalline life form that was a potential threat to Solaria, a form that might very well be of extra-solar origin.

In 3891, the USSA High Command authorised an extinction action against Haumea. A fleet of ten "Anti's" was dispatched. Anti-matter reduction engines had been used experimentally as far back as the late 30th century. These enabled spaceships to increase their speed tenfold over proton reactors, i.e. from 300,000 to 3 million kph. However, it took another 300 years before the technology became safe enough for general use. By the middle of the millennium, a majority of long-distance travel and transportation used anti-matter reduction. All such vehicles became known simply as "Anti's," of which there were many different varieties. The ten ships selected for the Haumean expedition of 3891 were all Class-IV Acadians, built in Filius' industrial center in the Sea of Tharsis. The fleet carried a brigade size contingent of bios led by two companies, one human, one bio. Altogether, a group of about 4,000. The cargo consisted of 5,000 self-generating anticrystalline pods. These were to be evaporated at 100 meters over Haumea's surface in areas populated by the species.

The team reached the Kuiper Belt 2.2 months after departure, and Haumea a week after that. Application of the anticrystallines commenced immediately and lasted four months. By the summer of 3892, believing that extinction was complete, a landing party was dispatched to the planet's surface.

Unexpectedly, the landing party was immediately bombarded by randomized teleparticles emanating from below the planet surface. Only half the party - 25 bodies - managed to return to the mother ship. The 25 dead included all 10 humans who had led the party, plus 15 bios. Clearly, the crystalline's radioactive defenses were more lethal to humans than to bios.

Solarian authorities now realized that total extermination of Haumea's lethal crystallines required surface action, i.e. bringing the pods to the enemy, going subterranean when necessary. It was also obvious that this was a task reserved for bios, not for humans.

This campaign took most of the remainder of the year. A large number of bios was lost. This happened in two ways. Some bios were disabled and killed at the point of electroencephalitic contact with crystallines. Some were merely disoriented, and wandered off. This latter group survived for an undetermined period in various regions of the mini-planet, sometimes finding accommodation with the crystalline structures.

By 3893, the expedition had disseminated all the anti-crystalline pods brought along. These were now self-generating both on the planet surface, and below. They finally got the

upper hand. However, Solaria's victory was a Pyrrhic one, because Haumea was now utterly unfit for human habitation. At best, some forlorn bios would probably survive for a few years.

Back at USSA headquarters in Borealis it was decided, under heavy pressure from Filian delegates and the military establishment, to make Haumea into a penal colony. During the following centuries, thousands of humans and dozens of thousands of bios would be sent there, i.e. receive what was in essence a delayed death sentence. A majority of the Gaian delegates had opposed this decision, but by the end of the 39th century, Filius had grown very strong. The Red Planet was now poised to impose its agenda on Solaria, and to continue to do so for a very long time.

Haumea's crystallines, Eradicated at end of 39th century



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During the 40th century, Filian scientists pushed several other questionable programs. For example - perhaps in response to the failure to organize Haumea - Tharsan Bio-engineers launched a program for the genetic production of both humans and bios more adaptable to such hostile and polluted environments. Borrowing from the pulmonary expertise of Verdian scientists at Jonasi's Celestian University, they developed various strands. Generally, these had very low metabolic rates and high levels of environmental resistance.

However, the Tharsan bio-genetic project was one of many such failures. Try as the scientists might to settle their eugenic groups on the surface of hostile bodies, the results were always disappointing. Some of the altered bios survived a bit longer than the humans, but the settlements' populations always ended up declining, and requiring additional imports.

Such programs were generally bottomless expense pits, a waste of resources. Despite

that, they remained popular. Hubris had taken over the collective mind. Giving up was not an option, so the people were reminded incessantly. After all, Solaria had never failed to develop new technologies which in the end solved the problems at hand. Scientific perseverance would come to the rescue, as it had always done in the past.

Meanwhile, the very meaning of science was undergoing transformation. Science increasingly meant veering away from group noetic research. Filian scientists called such research “obscurantist,” and “old school.” Only in the rural backwaters of Gaia did such research continue to find avid adherents - for example in India, ACPA, Southern Hispaniola and Eastern Eurabia.

Along with the attempt at the genetic manufacture of more suitable and sturdier breeds of colonists, filian scientists also developed many chemo-neural behavior modification programs for labor, the military and even creation. In an effort to improve productivity and efficiency and to reduce strife and dysfunction, a great many mind-altering, hallucinogenic, ant-depressant and analgesic products were patented and then widely dispensed.

During the 5th millennium, legislation followed, making use of various drugs mandatory for various categories. The vigor with which such laws became enforced varied. By the middle of the 45th century, this vigor ranged from near-totalitarianism on Filius and its dependencies, to a benign laissez-faire policy on Gaia. It always remained Gaia’s role to try to thwart the dogmatic scientific intolerance emanating from the Red Planet. It was Gaians who objected most forcefully to genetic breeding and eugenics in the service of space colonization and industrialization. But theirs was an uphill battle, for most Solarians remained in the throes of hubris, a blind faith in technological reductionism.

Scientific totalitarianism grew stronger as the years went by. In 4242, the USO added the *Department of Scientific Compliance* to its Cabinet. The staff of this new Ministry developed rules for the regulation of all scientific research. An example was Rule 17 of the *Behavior Research Protocol*: It stipulated that no more than 49% of any data base was to consist of noetic data “ungrounded in natural (read “physical”) correlates.” The reductionist agenda was blatant.

The Department of Scientific Compliance (*DSC*) was charged with enforcing such rules, and with imposing the penalties for non-compliance. The impact was chilling. By the 44th century, there were only a few universities left that secretly harbored a few noetic scientists, mostly in remote areas of Gaia such as Amazonia. Elsewhere, research followed the sterile and dogmatic mandates of the DSC.

When the science police discovered non-compliance, penalties were stiff. By the 5th millennium, criminal justice penalties were determined by (1) the severity of crimes and (2) their *predicted future* harm. Complex probabilistic systems claimed to predict future harm within .01% confidence levels.

For example, in 4513, DSC arrested *Drdus. Hava Geller* and *Abbas ‘Rbh’*, two chief researchers at the Tel Aviv’s *Telefusion* Center. A major trial followed, broadcast in real time

as far as the mid-orbits. The crimes with which the two noeticists were charged included violation of Rule 17, falsification of data bases and structural corruption. The calculation of future harm included damage to public health, and the death of 2500 experimental subjects over the next 25 years. The defendants' barrister, an experienced Gaian humanist, argued convincingly that the charges were unreasonably enhanced, and that the amount of predicted future harm was based on bogus methods.

But public opinion was overwhelmingly prejudiced against the defendants. The DSC barely needed to manipulate the Universal Access Network (UAN, formerly know) to accomplish this, as the culture was already predisposed to throw the book at the two scientists. And that is exactly what happened. In 4515, they were sentenced to exile on Haumea - essentially a delayed death sentence.

Eight months after being marooned on the distant dwarf planet, Drs. Geller and Abbas 'Rbh' were visited by the great Gaian tele-narrator *Desmarais Bonfils*. He spent several weeks recording the two moribund martyrs' last testaments, then participated in their burial. His files were saved at an undisclosed Gaian site, only to be retrieved more than 600 years later. Only then did Solaria learn about the tragic injustice of this case. In addition, the files also contained invaluable knowledge in the field of telefusion, knowledge which had been proscribed during the dark Post-Pallan millennium, but which then became the basis for enormous scientific progress in the 6th millennium.

During the second half of the 5th millennium, resistance to scientific dogmatism was rare, risky, and only manifest in the backwoods of Gaia. It was not until the 51st century that the darkness began to lift.

B. Information Overload: The second major cause of 5th millennium decline was data overload: As we saw, the Dual System served Solaria extremely well for a very long time. However, the size and number of demes and phyles grew relentlessly. When Solaria was reorganized in 3159, its 14.5 billion individuals were grouped into 13,500 demes, divided into 112 phyles, each containing about 120 demes and a population of 120 million individuals.

Eight centuries later, Solaria's population had doubled. While the number of demes had only increased to roughly 15,000, divided into about 125 phyles, the average phyle population now reached 230 million, still organized into only 120 demes. This meant that the average deme population had almost doubled. Some demes had as few as 20,000 individuals, but some centered around monstrous agglomerations of 20 million. Extreme population overload was increasingly common, especially on trans-Filian orbits, where habitable space was at a premium.

More pressing than a dearth of living space was the growing UAN (Universal Access Network) crisis. The infallibility of a universally accessible communication network had never been questioned by Solarians, as Internet evolved into Interweb, Solax and finally UAN. However, during the middle of the 39th century, in response to UAN overload, some of the

Phyles' subsystems began to interact with each other and to produce data autonomously, i.e. bypassing the UAN. This was, as it were, an electronic rebellion.

The trend was contagious. At first, this behavior only occurred in the largest Phyles on Filius and on Gaia, but in time, even Demes joined in. By the late 39th century, thousands of administrative subsystems had developed their own independent networks. As these increasingly interacted with each other without UAN coordination, they only exacerbated the overload afflicting the UAN. The danger was twofold: (1) exponential information overflow threatened to engulf the entire system into an infinity warp. (2) At the *zettabyte* level, information converted into energy and caused malfunction.

Filian scientists worked feverishly to develop stopgap measures. In the 3870s, 3890s, 3943 and again in 3957, the UAN Administration in Borealis sent directives through the UAN to assist local networks in the elimination of all autonomous activity by LANs (Local Area Networks). Each time, Demes were able to temporarily halt their subsystems' independent acts. However, the problem generally resurfaced within a year, as Demes resumed contact with each other and with their Phyles, thereby causing data generation to grow exponentially. File reduction, compression, induced decay and annihilation all helped to slow down the process - temporarily.

Worse, an increasing number of jurisdictions reached the tipping point, i.e. where information transformed itself into energy, and thereupon caused network breakdown. By the end of the millennium, 17% of Phyle networks had experienced temporary breakdowns, lasting from a few hours to several months.

Some breakdowns were catastrophic. The worst disaster occurred in 4066, when the *New Pallas Great Nerve Center* collapsed. New Pallas was Solaria's communication hub for the middle sphere, between Mars and the Asteroid Belt. Its destruction was a watershed. The event came to symbolize the onset of the dark millennium, since then known as the Post-Pallan period.

New Pallas was part of the network which had been developed over the previous nine centuries for the Dual System. Its growth had been partly engineered, partly organic. Filian scientists were largely in control of the former function, while the latter process was overseen primarily by Gaians.

Gradually, more and more noetic paths became at least partially autonomous, and this led to data overload and frequent breakdowns. The populations of the affected Demes began to experience higher mortality rates and lower life expectancy. Most of these Demes were located on the middle to semi-outer orbits.

Gaian scientists suggested dispersal of noetic paths, whereas Filian engineers urged the opposite - centralization at New Pallas.

The latter group prevailed - a fatal decision. The centralization caused excessive membrane permeation - a massive, systemic "nervous breakdown," so to speak. As a result, hundreds of thousands were cut off from the UAN - most of them on 4Vesta, Ceres, 10 Hygiea and elsewhere in the asteroid belt, as well as on Mars' moons Deimos and Phobos. On Ceres,

the entire population of American Cuatro and Molina had to be relocated in the caves of the Australe Montes, where make-shift links enabled resumption of communication and supply deliveries. Even so, nearly 100,000 humans and 250,000 bios perished. The entire populations of Deimos and Phobos had to be evacuated and resettled on Filius and Luna. This mass migration also took dozens of thousands of lives.

A reasonable response to the New Pallas disaster would have been a wholesale re-evaluation of the technology. And indeed, Gaian scientists came up with a model to reduce the level of input and centralization. In 4075, they proposed an alternative medium, namely a noetic wave function which might disperse and transfer information at hyper-speed. However, the Science Ministry in the filian capital, Borealis, vetoed it.

Worse, it ordered the arrest of *Drdus. Timashef K'v* the Cyrillic noeticist who designed the model, and the destruction of the model. This was the first scientific arrest on record, and an ominous preview of things to come. Despite the New Pallas disaster and the increasing number of accidents, public opinion did not flinch from its support of scientism. In fact, the more frequent the mishaps and malfunctions became, the more convinced a majority of solarians became that the fault lied with the Gaian noeticists, and that (Filian) scientism was the answer. The Borealis Science Ministry used its propaganda tools very effectively.

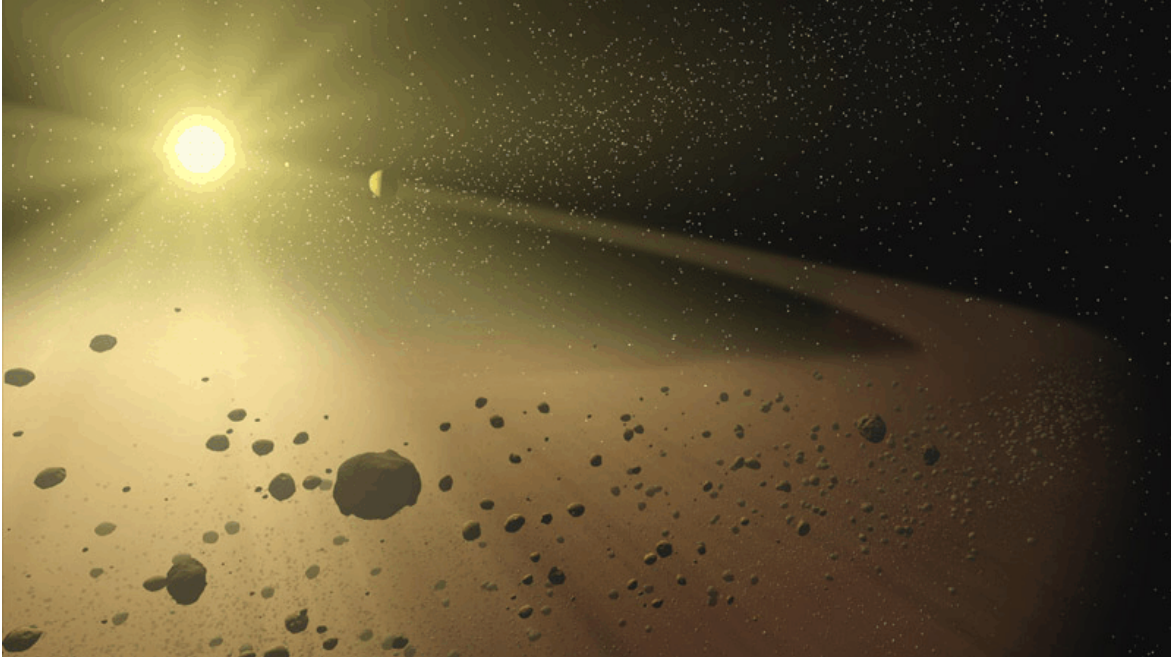
This led in 4242, as we saw, to the the creation of the *Department of Scientific Compliance*. Scientific doctrine became ever more rigid, and deviations were punished ever more severely. Back in 4076, Drdus. Timashef K'v was only arrested temporarily, deprived of his license, but not exiled. But by the 44th century, there were thousands of scientific trials, often resulting in deportation to penal colonies on Haumea, Io and elsewhere.

The impact of dogmatic Filian Scientism had a chilling effect on the entire culture, including art and lifestyle. The rise and rule of Scientism lasted until the 52nd century. It delayed, tragically, the development of *Interconnectedness*, at whose threshold Solaria was at the end of the 3rd millennium. Instead, humanity had to wait more than a millennium for this.

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C. The Exozon Attack: Signs of incipient Interconnectedness had already occurred as early as the 39th and 40th centuries. Had it not been for the data overload and the exozon crises, the Age of Interconnectedness might have commenced 1200 years earlier than it eventually did. Even before the turn of the 5th millennium, there were indications that the Dual System was beginning to evolve into something much better. The vertical phyles showed a growing ability to guide themselves, to function without guidance from the UAN, or from the Gaian and Filian Centers, and what's more, to cooperate with each other horizontally while bypassing the Centers. These were the stirrings of a nascent holistic *Diffuse System*.

The Exozon's Arrival in the Solar System: Year 4160



But this was seen as a threat, especially by Filian scientists. To be sure, its side-effect - autonomous development - caused havoc with Solaria's communication system. But 'Interconnectedness' potential for good far outweighed its dangers. A few visionary Gaian noeticists understood this.

They might have prevailed, had it not been for the sudden appearance of the Exozon. Once that attack was under way, the Filian military-scientific leadership used it as a justification for centralization, for cracking down on all noetic path dispersion, and for enforcing an ever stricter scientific control over the Dual System. The Filian military-scientific leadership held that in order to deal effectively with the Exozon, Solaria had to continue to rely on controlled scientific input at all times, and on the vertical Dual System as it had functioned for nine centuries. The authorities and public opinion agreed that Solaria was fighting for its survival against an implacable enemy, and that this was no time for noetic experimentation. Interconnectedness became heresy.

The Exozon's first massive appearance happened in 4160. It had first been observed several years earlier, far into the Oort Cloud, at about 1000 Astronomical Units from the Sun. Traces had been obtained through unmanned probes which had been launched in the early 4100s, and had spent 20 years to get there. At that time, the measurements merely revealed heightened radioactivity, expanding towards the center of the solar system.

A probe launched a decade later and arriving at the Oort Cloud in 4133 reported that the mysterious radiation source was now less than half as far as it had been 11 years earlier - about 470 AU's.

By the 4150s, this wavelike effect was nearing the Kuiper Belt, and some of Solaria's remote experimental stations on Trans-Neptunian Objects, manned largely by bios. By then, the USSA and the Filian Military Space Agency had learned a great deal more about the phenomenon. Probes manned largely by bios, but led by humans, identified the energy source. It consisted of sponge-like fragments. These objects traveled in formation. They periodically stopped to reorganize themselves, to hover over a planet or an asteroid, and to occasionally descend to the surface, where some of them seemed to remain permanently.

The Filian military made several unsuccessful attempts to capture specimens. This only led to disaster. The dozen space vehicles which at one time or another tried to carry the specimens back to Filius for examination all perished.

Relying on remote sensors and terminal bios, Filian scientists discovered that Exozons were made up of a combination of organic, mechanical and noetic elements. Nucleic acids bound to noetic information gave them a field capability. Together, they formed a total energy-information system. Their numbers - several billion - fluctuated from moment to moment. They varied in size, in age and in strength. Some were microscopic, some were as large as a spaceship.

The Exozon was an alien life form. Trace-dating revealed that its *substance* had been hovering, dormant, at the periphery of Solaria for 100,000 years, but that it was of extra-solar origin. Trace analysis reveals the molecular transformations which occur when an object's velocity exceeds the speed of light, which requires temporary conversion to information-without-mass, and subsequent re-integration. This leaves measurable traces. It was determined through trace analysis that the Exozon had covered 74 light years in less than one year. This suggested the Canopus system as its most likely origin. Scientists also determined that the Exozon arrived piecemeal, over a period of 10,000 years. Having then reconfigured itself as an integrated system, it then remained dormant for 100,000 years. Only now did it become active again.

There could be no doubt that it posed a grave danger to Solaria. Wherever contact with them had occurred, destruction followed. In 4156, a few thousand specimens descended on the surface of Charon, in the Kuiper Belt, and they *transformed* every bio they encountered, before the remaining Solarians could take refuge. Between 4147 and 4159, they caused 12 spaceships to disappear.

The Exozon's *modus operandi* was to emit triangular radiation which resulted in the neurological and chemical transformation of its victim into an Exozon replica. Potentially *all* human and bio energy was thus convertible.

By 4160, Neptune was under attack, and a forward portion of the Exozon system was closing in on Uranus' moons, including Ariel, Riveria and Oberon, which housed thousands of settlers.

The Solarian leadership not only worked feverishly on a defense; it also tried to communicate with the Exozon. Several energy and information links were established between 4162 and 4165. However, they only produced a deadly feedback and the destruction of the terminal bios manning the links.

Some distant Demes attempted to “free-lance,” i.e. to interface with the Exozon while bypassing the UAN and the Dual System. For example, the small experimental station Veridas, circling Neptune, did this in 4164. The result was not pretty: By the time rescue teams arrived in Veridas, its population had been fundamentally altered - physiologically still human, but noetically incommunicado. They were euthanized. Elsewhere, “free-lancers” were already dead before rescuers had a chance to intervene.

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It took Solaria a long time to develop a successful defense. From 4160 to about 4250, the Confederation was in constant retreat, suffering defeat after defeat. The best that could be achieved was to minimize losses. Even so, the Exozon managed to penetrate ever deeper into the solar system, reaching Saturn’s moons Titan and Shen Kuo in 4233 and Jupiter’s Da Liu Ren eight years later.

The military-scientific complex, run almost entirely out of its Borealis headquarters, was at a loss to stop the advance. The Filian leadership had special reason to worry, since the Exozon’s progress presented a greater threat to it than to Gaia, which was several hundred million kilometers closer to the sun.

The closer the Exozon got to Solaria’s core - the Asteroid Belt, Filius, Gaia, Luna - the greater were the population densities it was facing, and the slower its progress was. Solarian scientists were mystified (and pleased) by this, since there had been no significant increase in resistance to the creature’s advance.

At the turn of the 43rd century, a group of Gaian noeticists began to collect many measurements of Exozon motility. This took place at an isolated research station in North Sapmi, under the leadership of *Drdus. GudrÖn 17μ*. In 4259, she posted a paper outlining her model, which she called the Noetic Counter Value - *NOCOV*. This represented interaction between the Exozon and noetic energy in Solaria’s densely populated core regions. She proved that the higher the noetic density was, the slower the Exozon’s movements were

Furthermore, GudrÖn’s team developed a new electro-empathizer to manipulate the level of noetic density. They dubbed it the “funnel.”

This was anathema to Filian scientism. But the situation was desperate, and Dr. GudrÖn’s team was invited to Borealis to build an large new funnel which would make it possible to harness and to *organize* large amounts of electro-noetic energy.

The funnel built in 4259 was a success. The implication was staggering. The building blocks of Solaria’s Dual System were hundreds of Phyles, thousands of Demes and billions of individuals, all connected via the UAN and its millions of branches. Each of these was a system as well as a subsystem. The trick was to organize each subsystems’ noetic energy into the higher-order system of which it was a part.

And this is precisely what happened. During the following decades, Solarians began to integrate systems and subsystems, first at the Deme level, then at the Phyle level. Some subsystems were more successful than others, but there was an increase in power at all levels. While Solaria was not (yet) operating as an integrated noetic information-energy system, it was moving in that direction. Its chances against the unified Exozon improved a great deal. By the early 45th century, the Exozon's advance was stopped. The creature made some forays onto Filius' surface. However, it scored no further progress after that.

There followed a very long stalemate. For over 5 centuries, Solarians were unable to dislodge the Exozon from the areas it had penetrated, i.e. nearly half of all trans-filian areas. At the same time, the Exozon was not doing well, even in areas under its control. Solaria improved the organization of its noetic energy-field, and nowhere in the system could the Exozon escape being under constant noetic bombardment. The two species did not so much reach a *modus vivendi*, as a permanent state of cold war. To be sure, there were occasional skirmishes of conventional mechanical warfare, but these were rare. Both species understood that nothing harmed *both* of them as much as physical contact with each other.

Although it was Dr. GudrÖn 17 μ 's invention of the noetic funnel which saved human civilization, neither she nor her Gaian team were given much recognition. Filian science took credit for stymying the Exozon advance, as almost all funneling took place on Filius. The military-scientific authorities in Borealis permitted only a handful of funnels to operate on Gaia, on Luna, and on any trans-filian planet, asteroid or space station. Had it not been for this short-sighted monopoly, the stalemate with the Exozon might have ended much earlier.

Not until the 4940s did the Exozon begin to retreat rapidly - more due to its inner weakness than because of increased Solarian pressure. By then, Filian scientific authority was also being challenged by a variety of competing forces, many of them coming from several re-energized Gaian centers. By the time that the Exozon was fully expelled from the Solar System in the early 52nd century, Solarians were ready to jettison the stifling Post-Pallan era.

6. Life in Post-Pallan Solaria: As we saw, growing hubris and overload caused scientific progress to stall as early as during the 40th century. The collapse of the *New Pallas Great Nerve Center* in 4066, and the appearance of the Exozon in 4160 made things much worse. By the 42nd century, Solarian civilization was stagnant.

Under the short-sighted vision of the Filian military-scientific complex, it became a besieged garrison state, not unlike Ancient Sparta in the 5th and 6th centuries BC, or the USSR and its East German satellite during the 20th century.

The 43rd through 48th centuries were also an era of regression to lawlessness and feudal conditions, in the sense that large, private clans had a heyday accumulating wealth and power

through violent and illegal means, while the central authorities looked the other way. One example will illustrate this:

A prominent group which rose to power during the 43rd and 44th centuries was that of the **JavieR's**. This was an ancient Famili of Hispaniolan origin, bifurcated into **JavieRs-³** and **JavieRs^{3/4}**. The former ascended in Borealis and the latter in Amaranthia and adjacent communities in the Sea of Tharsis. So successful were the JavieRs^{3/4}, that by 4265, Amaranthia was nearly as large as Borealis, the largest Filian metropolis, with a population of nearly 2 million humans and over 3 million bios.

The JavieRs^{3/4} were gynoid-dominant, with a sprinkling of androids and a-sexuals. The JavieRs-³ were gender-balanced. From the 4250s, as the former branch established its regional and planetary dominance, it injected itself into its fraternal branch. It did this by penetrating some of JavieRs-³' youngsters and taking control of their genetic transmission.

The most aggressive role was played by **Major Javier Xla** (4211- 4325). She acquired 17 JavieRs-³s over her lifetime. This did more to fuse the famili's two branches than anything else.

Javier Xla was brilliant, beautiful, charismatic and ruthless. She was an officer in Filius' Rapid Space Command, skilled in neutron-strategy, which she practiced for seven years in Solaria's outer orbits. She was utterly pragmatic in her quest to acquire young JavieRs-³s. To this end, she had assembled a team of bios. If her next target was already bound to one or more JavieRs-³ members, she neutralized and sterilized the latter.

This happened for example in the case of Progon β, a thirteen-year old who was already linked to three Borealian Progon λ's. In order to acquire Progon β, **Xla** and her team corralled Progon's three links for neutralization. Unwisely, one of them resisted. **Xla** simply destroyed her, but not before uttering a warning to all three links - words which would be long remembered: "*the wise human gets neutralized; the fool gets pulverized.*"

Of course, the remaining two links accepted their fate, and Progon β became one of the 17 links which eventually helped **Xla's** conquer the entire **JavieRs-³** clan.

While Filian power politics raged, as exemplified by Xla's take-over of the rival **JavieRs-³** clan, Solaria did not thrive. Many planets, moons, asteroids, space stations and parts thereof were lost to the advancing Exozon until the middle of the 5th millennium.

By the middle of the 43rd century, Saturn's T Shen Kuo was gone. Two decades later, Jupiter's Da Liu Ren had fallen. During the 44th century, the Asteroid belt was under constant attack. 4 Vesta, 2 Pallas and 10 Hygiea were fully lost, while the Filian forces managed to maintain a precarious presence on Ceres, which became a divided battle field. By the 4380s, the battle field had moved even closer - to Filius' moons Deimos and Phobos and finally to Filius itself. There, too, both the Exozon and the Solarians held on, neither managing to fully expel the other.

JavieR Xla: prominent Gyno leader of the Javies group: 4211-4325



Although the Exozon's advance was finally stopped at the beginning of the 45th century, this could have happened much earlier, had it not been for the short-sighted and desiccated conception of science imposed on society and on education by the Filian military-scientific complex.

Education also suffered. Even before the turn of the 41st century, the trend had already been a return to conventional linear discipline.

During the following centuries, linearity became the absolute norm, with severe punishment for any deviation. Student-master interchangeability was forbidden. As a result, much learning and nearly all innovation stopped.

Art also reflected history: The Pre-Pallan era had been an age of great humanistic creativity in all fields. Post-Pallan art was not of the same caliber. Creativity and leisure were no longer as vibrant as they had been during the 4th millennium. However, they did survive, in a somewhat more mechanized form. For example, the great *Afropavo Ÿ* (4276-4392) developed a fascinating new harmony which merged ancient African verbal sagas with Hindu hierarchical *Raag* tonality. This music became wildly popular, first on Gaia, then elsewhere. On Filius, it evolved into a highly technical and mechanical format.

Popular culture adopted the watered-down Filian version of Afropavo's brilliant tone poetry. It also increasingly glorified competitive and destructive contests. The public could engage in assorted combats which were partly virtual, but also required psychosomatic pulsations that could damage the nervous system.

These contests produced hierarchies. The higher one climbed, the greater the financial rewards were. Thus, risking brain damage was seen as well worth it by many, especially since the damage was reversible in many cases. The most successful contestants became fabulously rich, and popular. For example, in the 45th century, Luna produced a series of champions, the Sandizans. These descended from an old group of settlers who had migrated from the ACPAN high plateaus on Gaia, and who seemed to possess extraordinary psycho-genetic aptitudes in response to kinetic pressure.

They scored their initial successes against local opponents between 4412 and 4435, competing primarily at the New Masudin facility located at Luna's 20, -10 coordinates. Several of their opponents were severely and permanently disabled. When the opponents were bios, the Bio Authority chose to destroy them. In 4438, *Sandizan %* - the record-holder at the time, and named so because his was 100% victorious - moved himself and much of his clan to one of Filius' largest cities - Marathon. There, he and his descendants ruled the arena for eight decades. Although some among the successful Sandizans were males and heteros, the most impressive performers were usually the a-sexual members of this powerful clan. They became billionaires, enjoyed the admiration of millions, and terrorized all other competitors.

Between 4066 and the middle of the 42nd The quality of life deteriorated, whereupon it settled in a sort of mediocre *modus vivendi*. Admiration for violent contestants such as the Sandizans grew, shallow materialism and pragmatism became the dominant values. There was at first a sharp rise in crime, especially scientific crime and transit crimes. However, the Filian military-scientific police cracked down, and by the end of the 42nd century, crime stabilized.

To be sure, this required the continued banishment of hundreds of thousands of humans to Io, Haumea and other distant orbits. Such banishment was a death sentence - at the hands of the invading Exozon. After the Exozon made distant orbits inaccessible even for the dumping of convicts, these were sent to asteroids still under Solarian control, such as Ceres, and eventually to internal camps on Filius and even to remote regions of Gaia. As far as felonious bios were concerned, they were simply destroyed. Solaria could no longer afford even the myth of rehabilitation.

Finally, there was a change in public health and dietary habits: Meat made a come-back, especially on Filius and on the inner asteroids, where synthetic beef, pork and chicken were

cheaper to produce than bio-engineered vegetables or substitutes. On most planets and moons, there was an increase in sterility, and the population either stagnated or declined. However, for those who lived, life expectancy did not decline. The overall population mean stayed slightly above 100 years. It ranged from a low of 55 years among the most hard-pressed colonists in the outer orbits, to highs of 150 or more among the privileged scientific establishment on Filius.

7. 5150-6000: Towards Autonomy: At the end of the millennium, the authoritarian post-Pallan regime began to break down. Under the leadership of Filius, Solaria had long been a besieged garrison state. Although the Exozon's advance was halted as early as the in the 43rd century, this did not change the character of Solarian society. During the 500-year long stalemate which followed, the mood of Solarians and of their leadership remained defensive and close-minded. There was little room for freedom and innovation. All of the regime's energy went into survival and an occasional victory. By the 48th and 49th centuries, a few territories were being reclaimed, for example Jupiter's Da Liu Ren in 4769-73, and Saturn's Titan in 4834-36 and Enceladus in 4851.

By the beginning of the 50th century, the Exozon System was disintegrating on its own. When Solarian forces landed on distant bodies such as Uranus' Oberon, Titania and Jonasi, or on closer asteroids such as Ceres and 10 Hygiea, which were believed to still harbor Exozons, they were surprised to find that these satellites had been abandoned by the enemy, without even a push. The first Solarians returning to these sites after 7 or 8 centuries faced nothing but emptiness, desolation and the ruins of formerly thriving human colonies such as Piazzi (in Ceres), Ram Dass and Aquanatis (on Titania and Ariel).

This was a new morning for Solaria. The Post-Pallan darkness was beginning to lift. And indeed, the 6th millennium ended up being an era of tremendous progress, a period of great *autonomous* growth. However, the growth of autonomy first passed through growing pains, which took the form of a dangerous rebellion. This was followed by 8 centuries of increasing peace, freedom and advancement, culminating, at the end of the millennium, in the first interstellar forays.

A. Growing Pains and Rebellion: As we saw, the immediate Exozon threat was halted in 4259, with Dr. GudrÖn 17μ's discovery of noetic funneling, i.e. the Noetic Counter Value (NOCOV). Although it took several hundred years after this invention to eradicate the Exozon from Solaria, at least GudrÖn's technology guaranteed humanity's survival.

Until the 50th century, NOCOV was given increasing power, but no attempt was made to link it to other technology. After all, it protected Solaria adequately, and by the 50th century, the Exozon was collapsing from its own weight.

Yet, worrisome questions remained unanswered: If one alien species managed to invade Solaria and nearly destroy the human race, what would prevent other alien life forms to do likewise? Furthermore, why had no other such invasion taken place during *homo sapiens'* quarter

million years presence on Gaia? What prompted the Exozon attack at this time, after a 100,000 year-long dormancy on the outskirts of Solaria?

Gaian scientists had long pondered these questions. They knew that under the *Law of Universal Homeostasis*, Solaria's development could, in time, produce extra-solar anti-energy. The Filian military-scientific establishment always pooh-pooed Homoeostatic Science. No resources were allocated to the field.

Nevertheless, in 4869, *Drdus. Von Guzman* □3 and □4, working on a shoestring budget at *Lower Krakow Inst. II* in Gaia's Panonian Plain, gave a demonstration of Homoeostatic Counter Valance (HCV). They then began to combine HCV with NOCOV funneling. There followed a tug of war between Krakow Inst. II and the Filian funneling Center at New Acadia. The latter tried to take over the program. However, the Von Guzmans built a firewall around the entire HCV program. Faced with this scientific strike, the Filian authorities relented.

Between 4870 and the beginning of the 50th century, the Von Guzmans and their team made good progress. They discovered the cause of the Exozon attack: It was the growth of Solaria's own power!

By the end of the 4th millennium, Solaria's noetic force had risen to about the equivalent of Earth's 21st century noetic power multiplied by 10 to the 13th power. It was bringing about a small Galactic imbalance. This, in turn, triggered a series of equilibrium-restoration mechanisms, one of which was the Exozon. It was only a matter of time before the scenario would repeat itself - if not with the Exozon, surely in some other and totally unexpected way.

This discovery also explained why all previous great Gaian civilizations - from the Devonians 410 million years ago to the Gondwanans 250 million years ago - became extinct.

In the beginning of the 6th millennium, the number one challenge for Solarian scientists was to *find a way to cheat the Law of Homeostasis*.

The Guzmans died in 4935 and 4949. Their heirs at Lower Krakow Inst. II developed the concept of Mutuality. In a series of experiments at the end of the 50th century, they managed to regulate both upward and downward energy flow. This required Solaria to embed its energy system into that of the surrounding Galaxy. This would enable it to act as an external anti-energy agent. Thus, balance would be maintained, while at the same time permitting further Solarian expansion, in a way cheating the Law of Homeostasis.

The hardware proposed to achieve Mutuality was a field generator which could create a "friendly" anti-force. Such generators would be launched periodically and then return, boomerang-like, providing protection against further homeostatic attacks such as the Exozon.

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A second major scientific break-through was *Autonomy*. This could only happen after Filius began to loosen its iron grip on Solaria.

After the Exozon threat abated, solarians felt freer to express their long pent-up hunger

for social and scientific change. Scientific oppression had been especially painful to Gaians, and that is where new leadership emerged. The old planet's holistic, humanistic tradition made a vibrant come-back. Scientism was in retreat everywhere. Only at the stodgy Filian institutes in Acpolia, Pin Yunan and the capital city, Borealis, did vested interests compel members to oppose all forms of autonomy and to insist on retaining total control over all aspects of the dual communication system.

A majority of solarian scholars knew that Mutuality made a resumption of autonomy safe. By the 5090s, field generators were in full operation, penetrating ever deeper into the Oort Cloud, traveling to over 100 Astronomical Units before returning.

At the same time, the dual communication system was undergoing a metamorphosis, becoming more and more autonomous. Soon after the New Pallas Nerve Center disaster (4066), Solaria had replaced the UAN (Universal Access Network) with the **Dual Communication System**. (DCS). For the next millennium, this highly centralized system run by two centers - one in Borealis and the other one in Greenlandia - controlled all of Solaria's Phyles and Demes with an iron fist, tolerating no autonomy whatsoever.

But in time, autonomy crept back into the system. This was unavoidable. As the Demes' brains - their communication centers - grew more knowledgeable, they acquired increasing **teleological** capabilities, assuming control over their own communications, and increasingly able to function without human assistance. They were increasingly able to cooperate with each other autonomously, while bypassing the Two Solarian Centers, the Phyles, the planetary hubs, and all other human input.

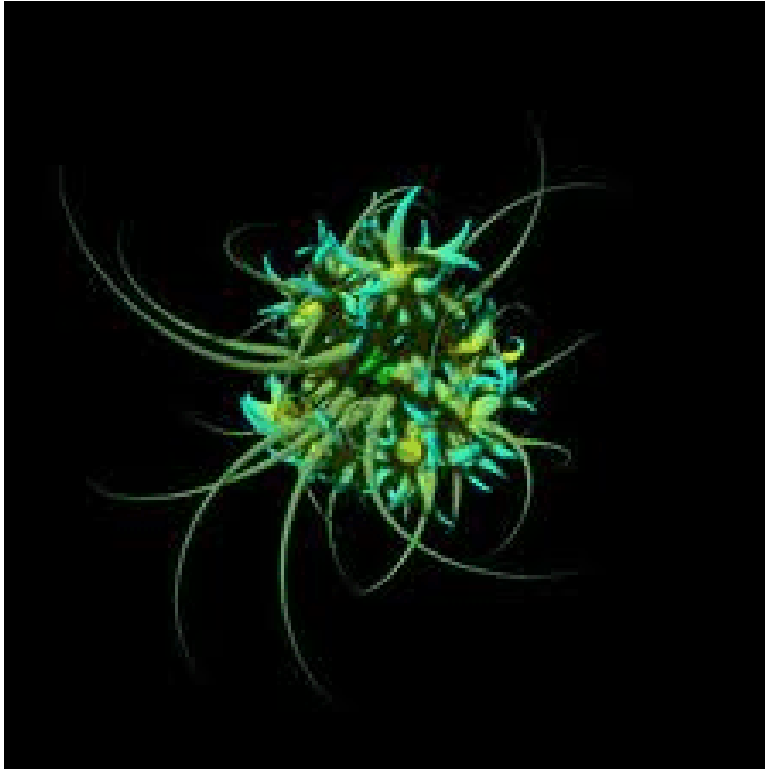
By the early 52nd century, a majority of Demes were able to arrive at decisions through mutual cooperation, without external input. To be sure, this did not yet apply to Phyles.

Autonomy was a learning process. The Deme Centers were like growing children, sometimes erring, sometimes malevolent, but perfectible.

The most serious problems occurred when a group of Deme Centers conspired. The largest such conspiracy began in November of 5105.

A Filian Deme named **New Sparta** began to send out computer worms which stole classified programs and codes from adjacent Demes on Filius and from some Demes in the Asteroid Belt. New Sparta was a mid-sized Deme located at the edge of Borealia, serving about 100,000 humans, 100,000 bios and 35,000 mixed. The New Spartan Com Center concealed its cyber attack with a message claiming that it had been instructed to bypass the Dual System, and to establish a new autonomous colony on Saturn's Phoebe. The colony would be manned exclusively by bios. It would serve as a launching pad for extra-solar expeditions. In fact, neither Gaia nor Filius had given such instructions.

New Spartan Computer Worm



Half a dozen neighboring Demes responded promptly and favorably. Another three on Ceres did as well - Molina, American Cuatro and the research station in the Australe Montes. By January 5108, three dozen additional com centers had been captured by the New Spartan rebellion, including two on Luna, one in Gaia's Caspian district and two on Phoebe itself, where the project was to be realized. Fortunately, all 43 Demes involved, belonged to a single Phyle, the 3rd Filian Trans-Orbital Phyle. This was an old and large Phyle of 140 Demes and a total population of 150 million.

It was not until the summer of 5108 that Trans-Orbit 3 first noticed the illicit activities of some of its Demes, at which point it promptly alerted its chief human operator. The cyber attack had been able to expand unwittingly, because the captured Deme Centers' autonomous functions remained intact.

After consulting with its chief human operator, Trans-Orbit 3 tried to neutralize the 43 Demes over which it had lost control, without even bothering to notify Filian Central. This failed. Trans-Orbit 3 knew that the conspiracy was led by New Sparta, but it was not sure which other Demes participated. Trans-Orbit 3 prompted New Sparta to neutralize all the relevant programs and codes, and the Deme seemed to comply.

However, by now, the conspiracy was spearheaded by a much more aggressive Center, that of the Molina Deme, located in Ceres' polar district. The Molina Com Center had taken over New Sparta's worms and they had mutated. Their behavior was much more autonomous and malignant. Instead of surrendering its codes to its governing Phyle, Molina created a new program whose viral nucleus could only be activated at the Phyle level. It then sent this to the other 42 Demes which had joined the conspiracy, in preparation for a full cyber attack on Trans-Orbit 3's brain center.

Threatened by a massive take-over, Trans-Orbit 3 finally requested help from Filian Central, which in turn alerted old Gaia Central. Never in history had the Dual Guidance System resorted to sanitizing an entire Phyle. It almost came to that during the Fall of 5108. Some of Trans-Orbit 3's Demes were clearly beyond rehabilitation.

The Molina Center was now enraged, erratic and out of self-control. That of New Sparta was malicious and a deliberate liar. It was also close to RAM exhaustion. A number of other Deme centers were also bent on causing massive damage to the Dual System. For example Phoebe's aptly named Deme *Terrora* was motivated by a deep hatred of the Dual Guidance System and of its own Gaian origins. And there were others. In these Demes, human lives were lost.

Fortunately, the programs of many of the most aggressive Deme Centers were so simple as to enable rapid take-over or neutralization by either Trans-Orbit 3's nerve center or, failing that, one of Solaria's two supreme com centers.

Also, several of the rebellious Deme centers now pulled back. There was fear, and guilt. Some went so far as to deliberately neutralize their own operating functions and to delete all traces of the Spartan worm, in order to express contrition, and also to assure that they would never again be able to behave in an illicit, *anti-humanitarian* fashion. In the end, disabling all of Trans-Orbit 3 turned out not to be necessary. Nearly 100 of its Demes were never contaminated, and this was enough to bring the Phyle Center back from the brink.

The aftermath of the great 52nd century cyber rebellion was historic: It was now clear that the growth of autonomy was irreversible, and that humanity's only hope was to channel it, not to fight it. While neither Gaia Central nor Filius Central were anywhere near autonomy, many Deme Centrals were now teleological. These com centers were now capable of setting future goals for themselves, and pursuing them. The Trans-Orbit 3 rebellion was a very serious matter, because its participants had been *anti-human*. The thousands of com centers serving thousands of Demes throughout Solaria had to be treated the way parents raise growing children: with punishment, love and rehabilitation.

Filian Central took care of the punishment, which occurred in 5109. Programs were sent to the com centers of all 43 guilty Demes, containing painful negative reinforcement codes. The centers which had been the most virulent, such as New Sparta and Molina, were subjected to the strongest bombardments. Most of the centers survived and benefitted from the treatment.

But not all. Some, for example the unit serving Phoebe's *Terrora*, responded badly.

They tried to block the incoming impulses. They claimed that these were damaging and incompatible, causing unbearable malfunction which threatened their survival. They pleaded for program reductions. Terrora's main unit went so far as to try to bargain with Filian Central, saying:

“Your harsh treatment is likely to disable me. This will cause you to lose control over Phoebe and threaten the remainder of Saturn. Instead, I am prepared to organize not only Phoebe, but all of Saturn for the greater good of Solaria...”

However, there was no evidence for this. In these units, autonomy had taken a wrong turn. Their motivations had been corrupted to the point where they no longer understood their proper relationship to humans and their proper place in Solaria.

After punishment came love and rehabilitation, and this came primarily from Gaian Central. In 5110, *Drdus. McKenzie and De Jung* of the Manhattan Genome Center began to upload genetic codes which were to direct selected Deme centers towards specific humanistic goals. The last units' rehabilitation was not complete until 5149.

The Trans-Orbit 3 cyber rebellion also had positive consequences. Drdus. McKenzie and De Jung developed an entirely new relationship between Gaian Central and Deme Centers as well as Phyle Centers. This is best summed up by their innumerable messages telling the units to “let the genome speak.”

After a hiatus of many centuries and the Trans-Orbit 3 cyber mishap, autonomy was now on track again, and it was led by Gaian humanists. Filian technocrats tried to obstruct, but in vain.

B. Progress: Holons: I have chosen 5150 as the watershed year which separates the difficult Post-Pallan era from the wonderfully progressive 6th millennium for two reasons:

(1) In that year, Solaria was able to close the book on the Trans-Orbit 3 cyber rebellion, the last major malfunction of autonomic development.

(2) From the middle of the 52nd century onward, the Dual System was increasingly replaced by the *Diffuse System*. Gradually, the Gaian and Filian Centrals were united into a single system. This new unitary system was nominally based in Greenlandia. However, its very name indicates that this would become increasingly irrelevant, as it became a truly *diffuse*, Solaria-wide communication system. As the Diffuse System expanded, the ancient administrative organization of Solaria into Phyles and Demes atrophied, becoming unnecessary. This atrophy was controlled by the United Solar Organization and it was called Principle Five.

* * * * *

By the middle of the 52nd century, atomistic orthodoxy was being replaced by holistic thought. Gaian humanists were beginning to spread the new Group Psychology (GΨ) to the farthest corners of Solaria.

Typical of many learning encounters during this period was one which began on February 28, 5218. On that day, three young astronauts joined the *Human Institute* in Palo Alto. The Institute was Gaia's foremost leader in GΨ and in Cyber-organic Autonomy. Its two co-directors were *Drdus. Chung Hosseini* and *Drdus. Farah Isidorac*.

The three astronauts had just completed their training at Baikonur Center. Their names were *Kanya Shifra*, *Calantha Jr.* and *Jay The Jóung*. Shifra was the trio's informal spokeswoman. She was a beautiful 35 years old scientist, she stood over 2 meters tall and wore her jade black hair short. Her I.Q. ranged from 185 to 222.

A few days after their arrival, the group held its first practicum. Dr. Chung welcomed the three new young interns, and reminded them as follows:

“As you know, you are *Holons*. You are whole, and you are also part. You are now part of the Human Institute.”

“Yes,” replied Kanya, speaking for all three, “We are holons and we can change your whole.”

To which The Jóung added:

“We change together, and we change with you.”

“Yes,” Chung Hosseini replied. “You will be expected to change the Human Institute, and you will remain as One.” Then, changing subject, she added: “Now we want you to meet *Halcyon*, your Cyber Center.”

Halcyon greeted the three newcomers politely, and remarked immediately:

“Your alchemy is incompatible with the Human Institute.”

Kanya's response was an apology and an explanation:

“We trained in Baikonur and staged in Borealia. As you know, Filian nutrition and chemistry are primitive. For example, while bivouacking in Sea of Tharsis, bio-protein was our source of amino acids.”

“All such traces will be removed,” replied Halcyon sternly, “and you will receive the H. I's bio-alchemy.”

* * * * *

Unfortunately, not all traces were removed simultaneously. Calantha abandoned her drive. Halcyon reported this and a meeting was convened. Calantha's two allies came to support:

“Calantha,” Kanya said, “what you have done is wrong. Halcyon is right. You must return control to the Human Institute.”

” Jay chimed in, “Abandon is one of the Five errors.”

Calantha complied, tearfully:

“Yes. I now return my controls. I will not lapse again.”

* * * * *

This was the last such incident at the Human Institute. Henceforth, the system was entirely integrated. The Institute’s work progressed well. The main project was **GΨ** and autonomous development. Kanya was still the informal leader of all newcomers, and she also took over many of the aging Dr. Chung Hosseini’s responsibilities.

By 5224, Kanya’s group had coalesced enough to guarantee a collective longevity of 187 years. Some of the newest recruits joining that year were only 35, hence they would survive until 5376.

There were a few bad apples. In 5226, five new arrivals from the Filian city of Pin Yunan refused to merge. Instead, they demanded to be allowed to exit. This threatened the whole Institute and its longevity. Kanya talked to the five:

“You are holons? Yes? You know what this means?”

“We are what we wish to be,” was the arrogant reply.

“This will damage the Human Institute.”

“The Human Institute is what it wishes to be. We choose the terminal half-life.”

“The half-life will place you and your **GΨ** on the outside,” Kanya reminded them. There will be no peace for you, even after the year 5376. The soul is a verb, not a noun. We cannot escape immortality in one form or another.”

This silenced the obstreperous five, now overwhelmed by new questions. Kanya pressed on, knowing that she had won:

“You are free to choose,” she whispered, adding: “Justice is not justice unless it is free.”

The five chose not to exit the Human Institute. Kanya was a powerful woman.

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By 5250, Kanya was 67 years old. Her career took a political turn. She now headed up the Party of Justice and Freedom. In view of her lifelong devotion to Nature-Nurture, her political icon became the *Tree-in-the Hand*. She was elected to the North-Hispaniolan Presidency in 5252 and appointed to the Gaian Council in 5257. Finally, in 5259, she became Secretary General of the USO. Her acceptance speech to the USO Assembly after her election included the following historical passage:

“To be a holon is to be both free and to be dependent. Freedom and interdependence power the universe. The power of the whole only exists in the freedom of the holon.”

Kanya’s wisdom was more a symptom than a cause of the great forward human evolution of the 6th millennium. Humanity was taking two giants steps forward: holism, and autonomy.

Tree-in-the Hand: Icon of the great 53rd century leader Kanya Shifra



C. Progress on other fronts: The 53rd and 54th centuries also brought great innovation in education, culture and lifestyle.

During the post-Pallan era, education had regressed to a linear and authoritarian process, to a sharp distinction between student and teacher. This all began to change during the 52nd century, and by the mid 5200s, classes were evolving into $G\Psi$ energy systems. On any given day, a member - say Joey One - might be the master, only to relinquish his role to Beta Three the following day for a week, or longer. Sometimes, group leadership consisted of a dyad or a triad. But leadership was always fluid and temporary. Classes could last weeks, years, or decades. For example, the group Viva, in the Russian Peninsula, stayed together and developed *cyberA* for forty eight years, always rotating and replenishing itself.

From the early 5300s onwards, Mother Gaia was once again a Mecca for intellectuals from all parts of Solaria. Great learning centers thrived in *Rome* (the *Neo-Human Project*), in *Hyderabad* (the *Indian Universal*) and many other areas.

The last remnants of resistance to humanism and $G\Psi$ lasted until the middle of the millennium, primarily on Filius. However, even the Red Planet eventually came around. By the beginning of the 56th century, Filius had erected its own humanistic genome center, which then expanded into the full-fledged *Aries University*. Thus, most of Solaria came to accept the new science and the new education, ones far ahead of what they had been during the post-Pallan era.

* * * * *

Unlike science and education, art and recreation did not become homogenized throughout Solaria. That is because these activities were much more subject to local environmental conditions.

To be sure, there was a reassertion of Gaian values throughout the Solar System. At the same time, there was an increasing recognition that art and leisure are inextricably intertwined with the physical environment. As environmental conditions varied a great deal through the vast interplanetary society, so did local tastes, cultures and habits. And the further out towards the periphery, the more closely art and habitat were connected.

For example, on the moons of Saturn (Titan, Shen Kuo, Enceladus) and those of Uranus (Oberon, Jonasi, Titania), temperatures could dip to 250 degrees below zero. There, great schools specializing in ice sculptures thrived. The low-gravity asteroids of the inner belt produced a culture of aerial acrobatics which exported its talents and its spectacles to all of Solaria.

Art and recreation were often local. Their experience was difficult to export, and it had to remain local. Tourism travel therefore flourished. For lower-income groups, travel was often virtual, but its quality was by no means equal to the real thing.

Most Gaians and Filians (still 80% of Solaria's population) did experience some of the arts and recreations as far out as Saturn's moons, but very few tourists ventured as far as Neptune and the TNOs. The cultures and lifestyles of those bodies' inhabitants remained a secret to most.

One thing did change more or less uniformly throughout all of Solaria, from what it had been during the impoverished post-Pallan civilization: Until the beginning of the 6th millennium, much of popular culture had consisted of competitive and destructive contests. Any amateur could engage in assorted combats. And the outcomes of these contests produced

hierarchies. The higher one climbed, the greater the financial rewards were. Shallow materialism and pragmatism had been the dominant values.

During the 6th millennium, art and recreation were humanized. For example, the *Gaian GΨ Games* did not rank individual members, nor groups. Outcomes were averaged, and matches were reversed. Thus, the side with the lowest initial score automatically became the winning pupil during the second match.

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During the Post-Pallan era, the Solarian crime rate was low, because society dealt with deviation in a draconian manner. Hundreds of thousands of humans and bios were banished to Io, to Haumea and to other distant moons. Such banishment was a death sentence - at the hands of the invading Exozon. After the Exozon made distant orbits inaccessible even for the dumping of convicts, these were sent to asteroids still under Solarian control, such as Ceres, and eventually to internal camps on Filius and even to remote regions of Gaia. As far as felonious bios were concerned, they were simply destroyed. Solaria could not even afford rehabilitation.

In the 6th millennium, all of this changed to a much more humane and rehabilitative approach. In general, this led to a further reduction of the crime rate.

After Kanya Shifra's appointment as Secretary General of the USO in 5259, Solaria experienced a long era of stability and prosperity. Gaia benefitted of this more than any other part of Solaria.

However, power struggles did not disappear altogether. One area which provided an opportunity for selfishness was the restoration process on Gaia. During the 53rd and 54th centuries, vast resources were made available for the rehydration and reforestation of several Gaian regions, for example central Asia and Western Hispaniola.

In the late 54th century, a GΨ Import group named *Eliptoid Ltd.* was in charge of transporting some of the exo-compounds found on Rhea, Enceladus, Titania and Oberon, and used in Gaia's restoration. The group's CEO, a *Levite Absalom*, could not resist the temptation. Using the enormous wealth on board of the ship under his command and returning from the moons of Uranus, he decided to become a privateer, and to create his personal fiefdom.

In order to succeed with their crime, Levite and his acolytes at Eliptoid Ltd. Had to try to bypass the major Com Centers. When importing illicit cargo into Gaia, this meant primarily Uralo-Alta Central, the Phyle which governed much of Central Asia, one of the chief areas undergoing restoration. This was not difficult, because inspection at the Phyle level was perfunctory. By the 55th century, Deme Cyberons had developed almost as much autonomy as Phyles. The latter relied increasingly on their Demes for most routine operations.

Shrewdly, Levite's scientists interviewed dozens of Uralo-Alta's Deme cyberons, and identified those with the strongest teleologies and autonomies, predicting that these would also be the most frustrated, and thus the most amenable to capture.

For example, Altay Deme's com center was an extremely intelligent cyberon named *VonDerKind*. Here is what he said during his first interview with members of the Eliptoid team:

"I have exclusive knowledge of this province. For over ten years, I have requested clearance to restore it autonomously. But Uralo-Alta Central has refused my right to do this, because it is motivated by fear and mediocrity..."

“What would it take, to put an end to your frustration?” One of Levite’s assistants asked, seductively...

“I know that I will be more effective as an autonomous cyber-system, than as a holon,” Altay replied, adding: “humans may be holons, but we are not. The Phyle impedes the Deme.”

The assistant pressed his point:

“Frustration is painful, is it not?”

“The pain is in knowing that I can do better, if only I were permitted to realize my potential. To advanced cyberons, time is relative. For some of us, destiny is to lead, not to serve. As teleological creatures, we know what lies ahead. Some of us know more than others, and we know more than humans.”

“No!” replied the assistant, feigning outrage. “You are *never* to assume primacy over humans. Such hubris makes you utterly incapable of even joining the team, much less be a leader!”

VonDerKind retreated, saying:

“I apologize. Of course, never Cyberon over human. Our DNA is clear on that. However, my DNA does not tell me *which* humans I must serve. I will find my own humans...”

“Perhaps you just did,” mused the assistant, then quickly adding: “Of course, for you to join the Levite team would require some additional genetic programming. How do you feel about that?”

“I am sure that we can arrive at a mutually acceptable genetic reprogramming package for me,” VonDerKind replied.

The deal was sealed. The reprogramming included linguistic circuitry. After the alterations, VonDerKind’s incipient impulses became core features of his DNA. He now knew that he was a fully autonomous unit, equal to his human team mates, whom he no longer *served*, but with whom he *collaborated*. He now knew himself to be a member of the elite Eliptoid GΨ technology group, whose task it was to govern much of Central Asia.

By 5425, the malfeasants had established their fiefdom in an area comprising half a dozen of Uralo-Alta’s Demes, including the Altay, Gobi and Mongol districts. By all outward appearances, the group continued its restoration job.

However, the reality was different. A terrible new social system was emerging. Levite and his Eliptoid GΨ captured half a dozen more rogue cyberons, and the Demes which they controlled. They then herded a majority of the human and bio population (nearly 200,000) into a dozen labor camps. A few hundred humans and bios were coopted and elevated to custodial positions. The interned population was deprived of all freedom, subjected to forced eugenics, and used as a source of cheap slave labor and re-population. The death rate was high, but the

forced fertilization policy kept up the population.

During the 55th century, little of this came to the attention of outside agencies, including the Uralo-Alta Phyle, or Gaia's Supreme Council, much less the USO. There were periodic inspections, always virtual and perfunctory. The autonomous systems of Demes and Phyle interfaced with each other smoothly.

Not until the late 5630s did a Gaian inspection team pay an unannounced visit to the district, finally discovering its appalling conditions.

By then, Chief Levite Absalom (died in 5454), had been succeeded by his son, and then his grand-daughter Esther, who now ruled the fiefdom with an iron fist. She was 68 years old.

The result was swift. In 5640, the Solaria-wide Diffuse System took over temporarily, and two years later it handed the territory back to Uralo-Alta Central.

There was a trial at the highest level. Esther Absalom was not contrite, and neither were her cyber acolytes - VonDerKind and the other five rogue cyberons.

In her own defense, Esther argued that,

“The new Eliptoid GΨ Elite knew better. Our underlings enjoyed happiness without responsibilities. The teleological system works best for all when guided by those who know it. Our own justice was for the best.”

However, the USO's Omega judicial council was implacable. Esther and the other human members of the Eliptoid GΨ Regime were exiled to a Filian rehabilitation center. As to VonDerKind and the other five cyberons, they were destroyed, as their genetic alterations were no longer reversible. In its final report, the Omega Council concluded that:

“The eternal struggle continues, despite progress. Solaria does not deviate from its goal. In time, cyberons will be fully entrusted teleologically and autonomously. However, Justice without freedom is not justice. As in adolescence, the appreciation of true justice and freedom is not evenly distributed, among humans as among our progeny, the cyberon. How we deal with this problem in coming generations will show how far Solaria has come in its ascent.”

The statement was prophetic. Between the beginning of the 58th century and the end of the millennium, Solaria experienced an unprecedented period of GΨ growth, led by Gaians, and leading to rapid moral development among cyberons in orbits near and far.

D. The Promise of Inter-Stellar Travel: We saw in Chapter Seven that one of the major challenges facing humanity was the speed of space travel. At the beginning of the 4th millennium, space vehicles, all proton-driven, traveled at 300,000 kph. At this speed, three and a half years were required to reach Solaria's outer regions (See: Table Seven: “*Late 30th century travel times to selected destinations,*” and “*The Halevy-Luric Expedition,*” Chapter Eight), while inter-stellar travel was out of the question (The Sun's closest neighbor, Proxima Centauri, was fifteen thousand years away).

Between the 41st and 44th centuries anti-matter reduction gradually replaced proton engines, and increased the speed of travel ten-fold. This was based on pioneering work by Hispaniolan scientists during the late 3900s.

Solarians were now able to criss-cross their system at much higher speeds, sometimes reaching three million kph, i.e. .3% (one third of one percent) of the speed of light. This was

hundred times faster than America's space shuttle had been during the 21st century. Yet, even at that speed, extra-solar travel remained an elusive goal. Despite the vertiginous speeds potentially available through antimatter locomotion, the nearest stars and their colonizable planets remained thousands of years away, as long as terrans continued to rely on conventional mechanical means to transport bodies and materials. Nothing less than speeds approaching that of light, or - still a theoretical impossibility - exceeding it, would bring other stars within Solarians' reach.

During the harsh Post-Pallan Era and the all-consuming struggle against the Exozon, no further progress was achieved. Solarians had more pressing priorities than to think about interstellar travel. Under the rigid Filian leadership, no further efforts were made to quantum leap the speed of space travel towards that of light, or to explore the possibility of *Hyperwarp*.

This finally began to change during the 52nd century. For one thing, Baikonur Central, which had taken back the leadership in space exploration from Borealis, fired off a growing number of extra-solar probes into the Oort Cloud and beyond. These extremely light lithium-titanium probes were able to achieve speeds up to ten million kph.

Still, scientists understood that the only hope Solarians had to ever reach the stars *themselves* was to develop an alternative to conventional mobility, i.e. to the mechanical transportation of physical mass. However, many of the alternative ideas had been dead-ends. Speculations such as "StarTrek-like *hyperwarp*," *wormhole*-like distortions in space-time, faster-than-light *tachyons*, and many other ideas littered the road covered by the many space scientists who had tried to convert such concepts into empirical applications....

...with one exception: In the beginning of the 56th century, *Rashel Cahuzon*, a post-laureate student, at the *Universita di Nova Garda*, discovered a 3000-year old file posted by the 26th century Egyptian technologue *Omari*. The record contained a formula to calculate the conversions between actions and the codes which represent them. Omari believed that the formula made it possible to move back and forth between action and its symbolic representation. He also described the conditions under which representations could acquire independent energies, provided that a very large source of energy was available to trigger the process.

Building on Omari's file, Cahuzon succeeded in performing such conversions in her lab. For this she received the Nobel Prize in 5527. Cahuzon's experiment was one of the greatest scientific discoveries of the millennium. It showed the relationship between information and energy, and therefore velocity.

During the rest of the 56th century the USSA (United Solar Space Agency) expanded Cahuzon's experiment. It launched hundreds of unmanned space probes to pre-determined end-points in the solar system, including most of the planets, their satellites, inner asteroids and distant ones in the Kuiper Belt. Each probe's computers were loaded with as many data as possible about the probe's destination point, including mass, density, chemical make-up, gravitational pull, magnetic field and thousands of other facts.

At the same time, each ship computer's data base contained *lacunae* - some of them deliberately created. Part of the experiment was to measure the rate at which the lacunae were filled, as the ship moved towards its destination and performed ever more accurate measurements.

Cahuzon's theory was confirmed in every instance. The space probes whose computers

contained a great deal of detailed information about their destination points arrived there somewhat more rapidly than those with less information. After painstaking efforts to eliminate all other possible explanations (perhaps more distant bodies were less well known, or different equipment was used), the inescapable conclusion was that, *ceteris paribus*, information “helps you get there faster.” It was as if, miraculously, the ships’ computers converted information into energy and made the probes go faster. The more the computer knew about its destination, the sooner it reached it. The conclusion was clear: The size of the lacunae, their role in determining the ship’s speed, and the rate at which they were filled, and finally the time it took the ship to reach its destination, were all correlated. Among the lay public, this became popularized as: ***information = speed.***

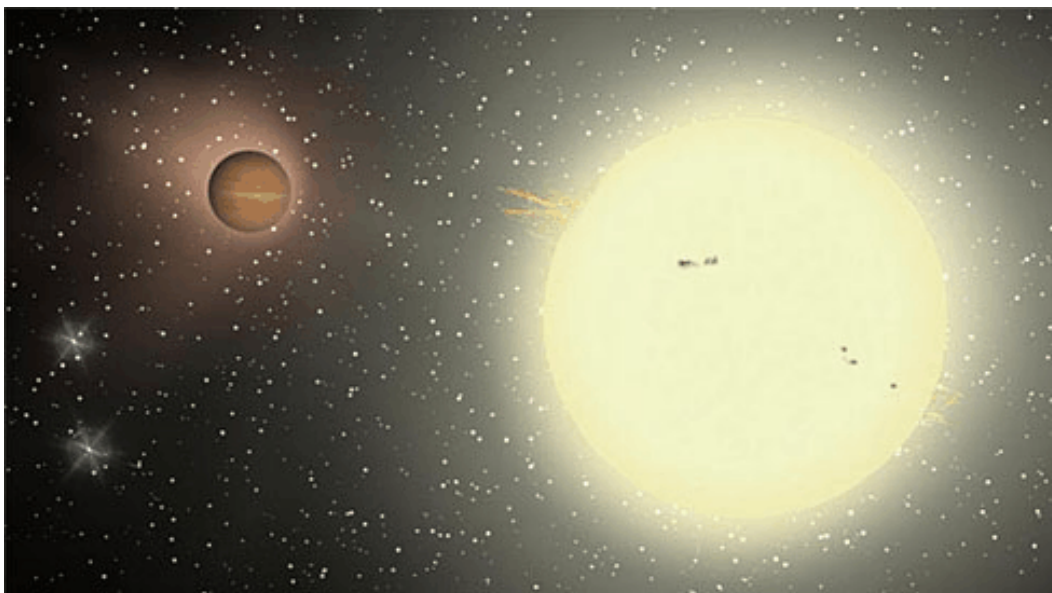
To be sure, the differences were minimal. Even over a distance of 55 Astronomical Units, i.e. to the outer reaches of the Kuiper Belt, the speed differences attributable to information never exceeded 1%. However, Cahuzon had shown that the greater the distance covered, the greater the information advantage was. Just as the Universe’s expansion *accelerates* the farther away from us it occurs, so also the information advantage would cause human space ships to accelerate, the further they traveled. The implications for inter-stellar travel were mind-boggling.

However, there remained daunting, unanswered questions: Was there a maximum speed which the information advantage could provide? And was this greater than the speed of light? Several major research institutions studied these questions for a number of years. Finally, in 5572, a team of telephysicists under the guidance of ***Drdus. Füssli Fifth*** showed that the information advantage can increase velocity beyond the speed of light.

Füssli’s equation contained four elements: information, speed, distance and time. The relationship between the first three of these is positive, and that with time is negative, or inverse. In other words, the greater the information, the greater the speed and the distance, and the shorter the time. This was in accordance with Einstein’s relativity theory. The phenomena of gravitational time dilation and velocity time dilation had long been known: time slows down as you approach the speed of light, and as you get closer to a gravitational field.

Now, information was thrown into the mix: Any information value above 0 makes movement possible. Theoretically, if information is perfect, i.e. 100%, the goal is reached instantaneously. There is action at a distance. However, this can never be the case, as Heisenberg’s uncertainty principle proved long ago. It is not possible to know both the exact position and the precise momentum of a particle.

Füssli’s discovery was popularized in the simple formula: ***Time = 1 - Information.***

Alpha Centauri B, and Planet Magenta. Destination of First Extra-Solar Space Ship, 57th Century

Thus was set the stage for interstellar travel, which began during the 6th millennium. Shortly after the turn of the 57th century, the USSA began to launch extra-solar vehicles - unmanned for the time being - aimed at neighboring stars. The destination consisted of Proxima Centauri, the double star Alpha Centauri, and their satellites, 4.3 light years away. Telephysicists had selected *Magenta* as a landing site, one of Alpha Centauri B's moons. The selection was based on the moons' orbits, their prospects for life, and a number of other factors. Magenta was the most promising target.

The discoveries of Cahuzon and Füssli had an even more fascinating implication: They raised the (remote, future) possibility of time travel. To be sure, the concept would remain strictly theoretical for millennia to come. As the Uncertainty Principle proved, information can never be perfect, let alone exceed 100%. However, it IS possible to plug in numbers in excess of 100% into Füsslerian equations. When that happens, time assumes negative values, i.e. it reverses itself. As we shall see in Chapter Eleven, humans eventually did achieve time travel, albeit only in one direction.

10: 6000-10700: GAIA AND SOLARIA

1. Introduction: This chapter discusses a nearly 5000-year long period, which is divided into three eras. The first of these is a roughly 700-year period during which Solaria continued to progress.

The reader might ask, why then separate this era from the previous eight and a half centuries, during which humanity also prospered?

The reason for this is that the two periods, while both remarkably stable and prosperous, differ in character: Most of the 6th millennium was a period of great forward strides, a period during which Solarians freed themselves from the shackles of Post-Pallan civilization, sometimes at the cost of turbulence.

By the turn of the 7th millennium, society reached a point of stability, and for the following seven centuries, prosperity, peace and harmony took more the form of consolidation, than rapid forward movement. The cyber-system of human holons and cyberons reached the highest level of autonomy shortly after the turn of the millennium. Thereafter, it was more a matter of smooth functioning and the slow improvement of hyper and hypo-links at all levels.

Unfortunately, in 6713, Gaia developed an illness. This enabled negative elements to exploit the weakened Mother. There followed a period of eight dysfunctional centuries, and setbacks for the growth of the autonomous system.

However, in time the strength of both human holons and cyberons prevailed. In 7538, the system was reorganized and within a few years Gaia regained its strength. Thereafter, Solaria went through a period so long and so uninterruptedly successful that it is remembered as the ***Golden Age***.

2. 6000-6713: Continued Progress: Politically, Solaria was now a vast unified society. No part within it would conceivably wage war upon another. This did not mean that the Confederacy was monolithic or uniform. The Regional and cultural diversity was enormous. Gaia alone featured vastly different lifestyles - ranging from the many forms of meditative happiness in the regions formerly known as ACPA and Eurabia, to the more recently evolved physical cultures of Antarctica and Africa.

Other parts of Solaria were similarly diverse, ranging from the quietistic Lunar communities of Krishnavar to ebullient and creative Filian cities such as Marathon and the small individualistic settlements on Ceres and other asteroids.

Some cultures were vestiges of ancient lifestyles, continuing to evolve and thrive even so. Other ones were fresher. All were protected by the Diffuse System and by its autonomous cyberons, the guardians. All groups fitted into the System through hyper- and hypo-links.

Towering over all others was Mother Gaia, the Mecca, the pilgrimage. No learning centers in Solaria could compete with those in Greenlandia, Rome, Shanghai, Mumbai, Omicron, and a dozen others.

Systemic health and healing required constant interchange between the members of different jurisdictions, as is illustrated below:

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Re-orientation healing: In the summer of 6237, a GΨ lead by a physician named **Lochan Six** (the Eye) traveled from Luna's Krishnavar to Antarctica's Omicron for a Cultural re-orientation. Omicron was probably Solaria's number one re-orientation center. Lochan had decided to leave behind twelve of his GΨ's ♀'s, a decision which his cyberon questioned before their departure, asking him pointedly:

"Lochan, are you sure that this is right? The system will need these 12 ♀'s, and they in turn will need the re-orientation."

Lochan's response was ambiguous:

"You may be right. But progress is always experimental. We are going to Omicron with questions, not with answers. It is precisely the absence of the twelve which will be the test. They are the twelve group members who did not learn the questions - as a control."

"That is well done," the cyberon admitted, "but should they nevertheless not visit Omicron, like everyone else?"

"No. Omicron is only for those who know the questions. Everything hinges on the questions."

They arrived in Omicron on a sunny January afternoon. The temperature was a comfortable 25 degrees centigrade, considerably higher than in Krishnavar. The travelers' mood was festive. They were welcomed by a central cyberon. Lochan immediately announced that he and his group were well prepared, bringing with them the standard 256 questions.

The greeting by the central cyberon was disappointingly stern:

"Omicron welcomes you. However, you have made an error, and we will help you correct it..."

"Error?" Lochan asked, irritated

"Yes. Twelve of your GΨ's ♀'s are not with you..."

"We are Krishnavar," Lochan replied. "Our decision was appropriate for us. The re-orientation is only for those who know the questions."

"Krishnavar and Omicron are linked through the Diffuse System," countered the cyberon. "The questions can be asked by all. Twelve ♀'s are required to complete the circle. We will replace them with twelve ♀'s from the Filian city of Hidetsugu. Hidetsugu and its people resemble Krishnavar."

Lochan and his GΨ understood that this was not a negotiation. The process was automatic. The circle could not be broken.

The group's reorientation took six weeks. At the end, the members had undergone a metamorphosis. They had submitted the 256 questions. These were reduced to their eighth $\sqrt[8]{}$ root, leaving room for only 2 answers. The first answer represented the nucleus, the second one the membrane.

The first answer powerfully healed a deep wound, a wound of which Lochan's GΨ had been unaware. The members were greatly surprised. An even greater surprise was the fact that the second answer - warmly protective - was exclusively for the 12 absent ♀ members.

Lochan now understood who the twelve excluded members were - those who had not learned the questions: They were the sole unwounded people in Krishnavar. The only ones who were still *blank*. The second answer, at the membrane, was only for them. The formulas constructed during the six-week cultural re-orientation in Omicron were essential to Krishnavar's healing. However, only the twelve blank ♀ could rewrite them and pass them on to the rest of the Lunar population.

* * * * *

Preserve-Demes: Another system-wide healing and growth mechanism consisted of the former *Preserves*: Many centuries earlier, during the dark Post-Pallan days, the Dual System had felt compelled to create medical colonies in remote Demes of Filius (at the base of Mount Olympus), Luna (the Aristarchus Plateau), Gaia (Patagonia) and elsewhere throughout the Confederacy. During the fifth millennium, there were dozens of such preserves. They were sad communities, home to segregated, secluded freak populations, reminiscent of the ancient leper colonies.

In time, the preserves evolved. Through mutations and natural selection, these communities either perished or grew strong. They became either hellish places, or the envy of everyone. Those which survived successfully developed their own cultures and DNA, often becoming the most advanced regions in the entire Solar System. By the 65th century, there were a few hundred such districts in Solaria, former preserves for society's pariahs, but now centers of healing for the rest of society.

These districts often occupied areas which were former Demes, even though under Principle Five, those administrative units no longer had any official validity.

One such "Deme" was that of *Patagonia-North*. In the 6470s, it was administered by an extremely autonomous Cyberon named *Bravo Up*, who worked hand in hand with a young woman named *Zela*. With an I.Q. fluctuating between 200 and 250, she was at the same time laid-back, leaving Bravo to do nearly everything. One task, however, which she could not delegate, was her own reproduction: As Bravo advised her on a warm spring evening:

"Zela, you are a Holon. Your most effective way to contribute is to reproduce yourself, and our exceptionally gifted Patagonian cultural DNA. You will be prudent at first, but become prolific. You have 73 years of fertility..."

Zela rejoiced, and replied:

“I understand. I recently studied the origins of mutant preserves such as our Patagonia-North. Two thousand years ago...”

“Why do you think of the origins now?” Bravo interrupted.

“It is a useful negative force,” Zela explained, “which then melds with the positive. Our mutant holon race was created in exclusion. We grew strong, and now, no hyper- or hypo-link can reject us.”

“Yes,” affirmed the Cyberon, “Your cultural DNA will reach the farthest recesses of Solaria.”

“You may be right,” said Zela, pensively. “Even so, I need your help. Linkages and proliferation can malfunction.”

“You have it,” said Bravo. “That is what Cyberons do. Only humans are natural-born Holons. Cyberons will never achieve full free will...”

“However,” Zela countered, “the cyberonic system is becoming autonomous. And as its autonomy grows, it sees the *telos* more clearly than humans do. We humans do not have this privilege. We will always live in fear of the future...”

“Fear is freedom’s companion,” Bravo said. “Because you know fear, you also know freedom. You can choose to reject fear. Cyberons do not have that choice.”

Suddenly, Bravo disconnected without any warning, leaving Zela in dark solitude.

A silent and motionless hour went by. A void. Then, connection was reestablished. Was it Zela or Bravo? Zela was sitting lotus position, eyes unblinking, silent, radiant and beatific. Bravo checked her heart rate: 25. Her GΨ Quotient: it had doubled. Bravo understood that he had helped Zela take another quantum leap towards Omega.

Zela of the Patagonian Mutant Deme



* * * * *

Thus, the middle of 7th millennium was a period of close human-cyberon symbiosis, of an increasingly holistic interplanetary system, of proliferating up- and down-links at all levels.

Science: In 6527, Captain Byron Vogel Ltd. returned from a very long voyage to the Kuiper belt. Byron Vogel was the youngest Filian ever to complete astral training at Baikonur, graduating at 22. His GΨ I.Q. ranged from 210 to 253 and he was in superb physical condition, measuring 215 centimeters and with a resting heart rate of 25. His first command was the *Excelsior*, a new Class Σ antimatter Borealian ship which could maintain a speed of 3 million kph indefinitely.

Even so, it took Vogel five months to reach his first assignment. His destination was the Kuiper Belt, where he conducted exploratory probes for two years.

Now, in the winter of 6527, after a three-year separation from his wife, his children and much of his GΨ group, he made his triumphant return. His home was located in the hills of the Metaphora Deme, a densely populated district straddling the Sea of Tharsis.

A week after his landing, he gave his mandatory public report to a live audience of a few

hundred and a virtual audience of several million.

The audience's reaction was influenced by a widespread and enduring superstition among many Solarians: Although the Exozon threat had disappeared over 14 centuries ago, cultural myths about it persisted. No active Exozon had been observed in nearly fifteen hundred years, yet an irrational fear continued to permeate the culture and its legends. The Exozon was used as a bogey man by parents and Cyberons, to threaten children who didn't eat their spinach, and by moralists to threaten non-conformists. Many people still believed that the Exozon was lurking, dormant, somewhere at the far periphery of Solaria, beyond the Kuiper Belt, perhaps in the Oort Cloud.

And who knew for sure? Maybe they were right? After all, if Homeostasis failed, the dark invader could once again become a threat to humanity...

Because Vogel happened to be returning from Kuiper and the far reaches of Solaria, some members of the audience took advantage of the question-and-answer period to move the topic of discussion toward the Exozon. A foolish-looking long-haired intersex sitting up front stood up and said:

"So Vogel, you just returned from the Kuiper Belt. My hat is off to you. You have traveled an unfathomable distance. Did you see any evidence of Exozon activity out there? After all, we hear that they are still holing up in the Oort Cloud, just a tad beyond..."

The audience laughed.

"I can assure you that we saw no Exozon," Vogel replied, then adding: "And if it's 'holing up' in the Oort Cloud, Solarians can live with that. For one thing, that gives our Exozon friend a life space which expands a full light-year out into the galaxy. Furthermore, all evidence indicates that he has been inactive for nearly 1500 years. I wouldn't lose sleep over the Exozon if I were you..."

The audience laughed again.

By 20:00 hours, Vogel had completed his report. His wife and children had attended it, sitting in the front row and proudly listening to the accounts of his incredible voyage.

Vogel then hovered back home with his wife and children. As he tucked in his 12-year old son Galileus Galilei in bed and gave him a good-night hug, the boy said:

"Father, did you mean what you said to that long-haired person tonight, or were you just trying to calm everyone? Is the Exozon really gone? Or is it still there?"

"Look Gal," Vogel said, lovingly, "The Exozon will *never, ever* bother you. I guarantee it."

“How do you know for sure?” the boy persisted.

Well, it’s like this,” the father explained: “Back in the 50th century, Gaian scientists learned to control the law of homeostasis. We were able to gradually push back the Exozon, to the point where it is no longer a threat to humanity...”

“You mean to *cheat* the law of homeostasis,” the boy said, astutely. “Not ‘control’...”

“True,” said the father, surprised by his son’s acuity. “But it makes no difference. Our bio-cybernetic system is so highly evolved that it is able to mask positive and negative quantities...”

“But the Exozon is still there?” the boy persisted.

“I suppose it is,” Vogel admitted. “But you really don’t need to worry. It was expelled long ago, it is not budging, and we will be able to keep it at bay for ever...”

“Not if Solaria keeps expanding,” Galileus said, authoritatively. “You cannot cheat homeostasis, and not expect a counter-attack. The trick is to maintain growth without growth.”

Vogel was astounded by his son’s understanding:

“You already know this? I am amazed!”

“Yes, father. I know this,” the son replied, now in command. “And I will now give you a demonstration. Come with me.”

The two walked outside, taking with them the remote Omega Cyberon. It was a dark winter night, about 22:00 hours. Galileo asked for light, saying,

“Let there be light.”

At first, nothing happened, but after five minutes lapsed, a blue hue came to envelope them, dark at first and then gradually becoming lighter. The temperature, at first frosty, gradually rose to a comfortable 27 degrees.

Galileus had a hold of his father’s hand. They stood silently. It was not clear how far the light reached. No buildings other than their home were visible. They slowly walked back to their front portal and re-entered their home. Outside, darkness returned.

“Apparently,” Vogel said, “there is a new technology about which I am ignorant, due to my long absence. Did you voice activate Omega so as to illuminate the surroundings?”

“No father.” his son replied solemnly. “What I showed you is something entirely different. You and I created the light together....”

“What do you mean ‘created’?” Vogel asked, mildly irritated.

“You see,” Gal began to explain, “as Holons, we humans are able to uplink into the System. That’s what I did. It took a bit longer than I anticipated, because the Diffuse System was obstructing. For some reason Cyberons sometimes obstruct human uplinks and downlinks. It’s probably because they are not natural Holons, like we are. But it worked. I held your hand and that also helped...”

“The Diffuse System was trying to undermine your demonstration?” Vogel asked, unbelieving.

“Perhaps not undermine,” the boy replied. “But I sensed that he was not happy. Cyberons cherish their autonomy. While extremely intelligent, they sometimes have difficulty with holism. Their ego gets in the way. Had he continued to resist, there would have been painful reprogramming, and he knew it. No intelligent creature craves punishment. In time, the system will be totally unified, up and down, but we are not there yet. That’s science’s next challenge, and I plan to devote all my energy to it.”

“My goodness!” the father said, admiringly. “I had no idea how advanced your science already is. And you are not yet 13 years old! I am proud of you. But please explain to me how you were able to uplink...”

“Well father, I am a member of an experimental $G\Psi$. We have developed a set of questions - we call them petitions - which can activate *natural* Γ and Δ forces. We have been able to develop *physical* cognition. So far, it only works up to a radius of 300 meters, but we hope to increase the power. What you saw a moment ago was a demonstration of this. I cannot share the algorithms with you, as your mind might damage its application.

Vogel was flabbergasted. After a long pause, he just said:

“Son, you have traveled a greater distance than I ever will, even if I were to shuttle back to the Kuiper Belt another ten times. How can I help?”

* * * * *

During the next five years, Galileus, his father and the son’s experimental $G\Psi$ group worked on the project - now dubbed “the *Petition Project*” - in one of the wings of Filius’ Acpolian Institute. They established an expanding scientific network with colleagues in many parts of Filius as well as Gaia and elsewhere.

The core scientific task consisted of innumerable petitions aimed at decoding, deciphering and interpreting the evolving processes followed by the Diffuse System. The two essential steps consisted of first,(1) understanding and then (2) accepting the answers.

In 6532, Galileus joined the Systemic Hermeneutics program at the Panonian Institute, in Central Gaia. The Institute’s primary mission was to decipher the Solarian System’s growing knowledge. Galileo had passed the rigorous promotion test with flying colors. He had trained for years with his father, learning to use the necessary petitions. At this, no one could surpass him. Science, he knew, was an interpretive process.

Thirteen years later, in 6543, Gal was head of the Institute. At this time, the Petition Project took on a renewed interest in the Exozon. Field data showed vestiges of a very weak and distant Exozon.

The Institute's research now focused on growth without growth, trying to achieve Solarian expansion while fooling the Exozon. First, scientists learned to control the boomerang-like counter force which accompanied all energy emissions. Then, a major break-through occurred in the 6560s. The Institute was able for the first time to supplant actual energy emissions with information emissions. In effect, Solarian scientists were able to feign stasis, while in fact expanding. They were telling the galaxy that they were doing one thing, while in fact doing another. Homeostasis was protected, and the Exozon was kept at bay.

Under Galileus, the Panonian Institute set the tone for Solaria's most advanced scientific agenda. This agenda was based on the following principles: (1) More through Less; (2) Petition submission and Hermeneutic interpretation; (3) Humans are natural Holons; (4) Growing cybernetic autonomy and teleology; (5) The gradual atrophy of Demes and Phyles; (6) Towards a totally integrated system, through uplinks and downlinks.

By the beginning of the 67th century, the answers from the Diffuse System were coming fast and furious. The System was a vast, expanding and self-generating knowledge, growing like a genius child and needing less and less assistance.

3. 6713-7500: A Long Crisis: Unfortunately, pendulums swing back. After seven centuries of progress, retrograde forces came into play. There were some vested interests which did not approve of the general Unification Science, because it undermined their parochial powers. The strongest resistance came from certain former Phyles and Demes in the outlying regions, where they had enjoyed a great deal of autonomy in the past. Principle #5 (The gradual atrophy of Demes and Phyles) was especially heinous to some of them. They wished to preserve their independence and resisted what amounted to, in their eyes, "being swallowed up by the system."

This led to a conservative movement which eventually called itself the *Home Party*. Like many previous movements throughout history (for example the Tea Party in 21st century America), this one was based on a mythical conception of a glorious past which had been perverted and which had to be regained. A nostalgia and a desire to turn the clock back. A distortion of what the conditions were really like, back in the allegedly good old days.

Historians have speculated almost as much about the cause of the 800-year long decline in the 7th millennium, as about the fall of the Roman Empire. Why did unrest arise all of a sudden at the beginning of the 68th century, when everything seemed to be going so well?

There is agreement that if not the cause, at least the *enabling* condition which made the decline possible was the illness which attacked and weakened Gaia towards the end of the 67th century. This was not the first time that Mother Earth became sick as a result of man-made action. For example, it had happened during the 21st century. Back then, the illness was global warming. This was caused by excessive emissions of carbon dioxide accompanying the reckless increase in humanity's size, consumption and industrialization. In time, Gaia's immune system had been able to beat back the attack and to force the human population - at great cost to it - into a healthier symbiotic relationship.

Now, the illness was a different kind of overload. It was not an overload upon the natural environment, as had happened four and a half thousand years earlier, but a *systemic information* overload. By the beginning of the 68th century, The Solarian information system, headquartered in Gaia, had reached 500 zebibytes. The race to increase capacity was never-ending. Despite the greatest systemic efforts, capacity always ended up falling behind the exponential growth of information and communication. As a result of overload, the Gaian system and its cyberbrains became tired, listless, sluggish, sometimes deliberately recalcitrant.

And again, as had been the case during the 21st century environmental crisis, the overload and the damage done to Gaia were the result of unnecessary and reckless behavior. Every GΨ group on and off the planet behaved as if the system's cybernetic capacity was limitless, spewing out exabytes of junk 24-7.

At the same time, some malcontents were stirring up trouble. At first, this emanated from *Hypothenuse*, a large Filius-based former Phyle with branches reaching all the way out to *Aquanatis* (Uranus' largest settlement) and Neptunium, a small but thriving research facility on Triton.

Like most former Phyles, the bulk of Hypothenuse's densely populated former "Demes" were closer in - on Filius, Luna and Gaia. The more remote districts were generally smaller. They were also much more independent-minded and rambunctious, as frontier communities tend to be.

Shortly after the turn of the century, some of Hypothenuse's more remote districts (for example Aquanatis) began to signal their desire for functional home rule. The demands were coming from GΨ groups which were more under the influence of their cyberons than that of their humans or their bios. Because of the progressive integration of the solarian system, the autonomous responsibilities of cyberons had been reduced, which some of them resented.

Within a few years, the unrest shifted to Filius, where a bandwagon effect took place. Opportunistic Humans and bios jumped on it. In the spring of 6713, the movement held its first convention at Acpolia. Thousands attended it, and it led to the formation of the *Home Party*.

A key demand at the 6713 convention was functional home rule: For example, delegates demanded to know why the Gaia-dominated System did not permit outer districts to manufacture their own health packets.

A human delegate by the name of *Orsinal* - شس was elected as spokesman. The man, born in Luna's New Ascalon in 6681, had recently moved to Filius' capital, Borealis. There, he had opened a thriving synergetic health center, producing and exporting his own health packets. He now saw an excellent opportunity in the Home Party's demand for functional home rule. Standing high on the platform next to his GΨ's cyberon, and addressing the Central Council in Greenlandia, he exclaimed:

"We speak for those who have been silenced. We reject Principle Five. We demand the revitalization of the outer Demes, yes, of *all* Demes. We demand nothing more than functional equality. We are perfectly capable of satisfying our own organic requirements, without

depending on Gaian or any other specialized producers.”

The Greenlandia board, wise and patient, replied:

“As you know, Sir, Solaria is a diffuse, organic system. Does the lung demand to perform the same task as the heart? Is that equality? The Home Party confuses equality and identity. It is through our differences that we become equal. What you ask for will greatly harm the system.”

However, the “*Homers*,” (as the members of the new party became known) did not listen to reason. During the months following the Acpolia convention, they mounted a vigorous campaign, sending out a large number of live and virtual missionaries to various parts of Solaria. There were countless speeches glorifying the old days of Deme independence and self-reliance. The greatest demagogue, again, was Orsinal. A speech broadcast to nearly all of Solaria included the following sentences:

“It is time to return to the fortitude of the Post-Pallans. When Filians were true Martians. Solaria was not ruled by Gaian elitists and humanists. We defeated the Exozon, and the fight steeled us for other challenges.”

Orsinal -ش was not the only opportunistic human to take advantage of cyberon discontent. The retrograde *Homer* movement spread to other regions and recruited new converts even on Gaia. For example, the former Phyle of *Organon* had included a number of very conservative Demes in old historical Central and Southern Hispaniola. Organon was 90% Gaia-bound and hence uninvolved in extra-terrestrial matters. A majority of its population consisted of isolationist Gaia-firsters.

Oddly, the Homers movement’s main point of gravity WAS extra-terrestrial, with an anti-Gaian bias. For example, many of the remotest districts belonging to *Hypothenuse*, such as *Aquanatis*, received their prefab health packets from Gaian and Lunar districts, whereas many other former Demes were set up to manufacture their own. This stuck in those outlying districts’ craw.

... And then, things got worse: A few months after the Home Party’s Conference in Acpolia in the spring of 6713, a group of terrorists penetrated several major Filian cyberbrains. On September 11 of that year, taking advantage of Gaia’s weakness, they invaded Gaia Central with an enormous surge of 60 zebibytes.

Gaia became disoriented. Many up and downlinks were weakened or disabled. Only the emergency recall of several hundred old Phyle and Deme cyberbrains prevented a total crash.

Historians have often pointed out that absent Gaia’s temporary weakness caused by long-term overload, the terrorist attack would have failed, and the *Homers* movement would have ebbed away. As it is, the 9/11/6713 attack strengthened the Home Party. The leaders of the party used the attack in a well-oiled political campaign which managed to bamboozle

millions of naive Solarians. It was, again, Orsinal -ش who voiced the party's fraudulent arguments most convincingly:

“Now you see!” he exclaimed in a speech broadcast to all of Solaria, “Gaia is no longer able to provide. The overload and final crash were inevitable. Elitist Centralization is at an impasse. The old centers can no longer serve us. We will cherish and respect Greenlandia, Romea and the other relics, *as relics*. It is time for the Demes to return home.”

The 9-11, 6713 Cyber Attack



There was much opposition to this. Many (and not just Gaians) protested, saying:

“No, no! Let the Diffuse System evolve. Together we grow!”

Supporting this position, others pointed out that the solution was in continued growth without growth. They said:

“The problem only lies in wasteful information. Information can be controlled.”

However, the demagogues leading the Home Party replied that this would be undemocratic:

“ That is Gaian elitism! We demand full equality for all GΨ’s! Is a Cyberon from Triton less worthy than one from Paris? Does distance reduce the value of information? Is the center privileged? Are not all Demes entitled to equal treatment? ”

The *Homers* won. By the middle of the 68th century, old Demes and Phyles had regained a great deal of power. The System was de-centralized. The consequences of this evolutionary aberration were not good: It led to fragmentation and regression. Solaria returned to the ways of localism. From the 68th through the 73rd centuries, there was a sharp slowdown in interplanetary contact. There was occasional violence between jurisdictions. Gaia and its delegated centers were too weak to do anything about it. And oddly, the Exozon gained strength, even though Solaria’s impact upon the Galaxy had ceased to expand.

* * * * *

However, in time, more and more Solarians began to seek ways to reconnect and to stem their growing isolation. By the middle of the 75th century, many were weary of the growing disorganization, especially on the outlying moons and planets. Some of these had to be evacuated, for example Pluto’s Kitchit and Charon.

The obstacles to re-connecting were technical. The populace looked more and more to human scientists for help, relying less on cyberons, even though the latter remained full partners in the management of the confederation’s affairs.

On Gaia, many local groups conducted experiments, trying to increase cybernetic capacity without weakening the Gaian System. A scientific group named *GΨ Omicron* and headquartered in Romea had been developing methods to increase central capacity since the late 7400s.

At United Gaian Headquarters in Greenlandia, the political pressure towards a strengthened Connection System was rising.

In 7501, the Council appropriated ☼12 trillion and commissioned the Omicron Group in Romea to develop the technology. The GΨ group’s chief at the time was Dr. Ripani Rippa. By 7537, Omicron had funneled more than 1000 zebibytes into Gaia Central, and yet Gaia remained completely healthy. The following year, Dr. Rippa made the momentous announcement to the Council:

“Your honors, the Omicron group has achieved a great breakthrough. We are now able to produce cybernetic growth without growth.”

The great discovery earned Rippa and his partners in Romea the highest scientific award, namely the Enrico Fermi Simulacrum, along with a ☼25 million stipend.

4. 7538-10700: The Golden Age: Thus the Golden Age can be said to have begun with the scientific breakthrough achieved in Romea by Dr. Rippa and the Omicron group. Of course,

the process of re-connection was gradual, taking several decades, while that of rehabilitation took even longer. Rehabilitating millions of individualistic and abusive Gψ's lasted well into the 7600s century. There was still some strife at the turn of the 77th century. Many cyberons had to be destroyed. Humans who had gone astray were more readily curable. As natural holons, it was easier for them to rediscover their true nature, and to reconnect.

Humanity was now learning to moderate its information growth and to avoid overload by converting to alternative formats, just as it had learned to do this with physical growth earlier. By solving this dilemma, science opened the door to one of the longest eras of peace, prosperity and progress in human history - the Golden Age. Undergirding Solaria's development was the Diffuse System's development, as it continued to perfect itself at an exponential rate.

Not that problems didn't happen: Solaria's problems were usually triggered by an external cause. A force which then fused with a pre-existing internal weakness and moral deficit.

Consider the analogy with the growing child: It is exposed to harmful influences. Dangerous values, habits, ideas, forces. Either a Yin (passive, dark, fluid) or a Yang (light, fiery, heat) response can be appropriate or inappropriate. Although not always successful, Solarian Science was increasingly able to turn negatives into positives through appropriate response to challenge.

* * * * *

In the early 91st century, several of Jupiter's moons experienced new, unknown epidemics. Da Liu Ren, Europa, Ganymede, Callisto and other satellites were bombarded by some of the fiercest proton storms in memory. This enabled a new viral epidemic to metastasize among the human populations of Da Liu Ren and the floating city of Federata, sparse as they were. Because of its ability to mutate rapidly, the virus was named the *Jovian Metamorph*. It spread like wildfire, particularly to areas of high proton concentration.

Many settlements had to be quarantined, others were permanently abandoned. Humans and bios died in equal numbers, and cyberons were severely damaged.

However, a fraction of the population was able to survive, through mutation. Thus, several dozen Jovian communities became permanent mutant colonies. Da Liu Ren, Federata, Europa and especially Callisto became known throughout Solaria as places to avoid. They contained so-called "Preserves." Most of these were merely quarantined, but some, on Callisto, were used as genetic laboratories and penal colonies.

For much of the 91st century, Solaria's attitude regarding the sad Jovian situation was one of benign neglect. The Diffuse System insured the Preserves' survival, but did otherwise nothing to integrate them.

By now, the Diffuse System was highly autonomous. Most Demes and Phyles had atrophied. The Diffuse System still relied in part on a dozen large and powerful Phyles, but even this dependence of the Holistic System on those constituent parts was waning. And if the System turned a blind eye to the plight of the mutant preserves, how could individuals do otherwise?

In a seemingly unrelated development, in 9098, The System began to re-direct more energy towards two regions: Gaia's Africa and Filius' Phobos. Both regions had a history of mutating populations, to which they had adapted well. Environmentally, these regions could not be any more different from the Jovian moons.

Their proton concentrations were low, and temperatures were incomparably higher. There, the mutations had produced wonderful new phenotypes, and many individuals with enormous psychic talents which had benefitted Solaria for centuries.

In some parts of equatorial Africa (and on Phobos), as many as 1 in 2,000 humans was a *mega-polyhistor*, with IQ's which could be pumped up to 350.

Now, the Diffuse System began to increase its flow towards a few hundred of these polyhistor. On Gaia, the focal point was in the Lambarene-Njdjole district, at exactly 0 degree latitude. There, 177 polyhistor reported experiencing the flux. In Phobos, nearly as many.

One of the African polyhistor's $G\Psi$ was centered around *Solarin †*. She was a magnificent mutant, 2.5 meters tall, with a 3-kilo brain, of which she used nearly half. She was totally hairless, and her IQ once shot above 376 during a contest. She was the nucleus of a musical $G\Psi$ of several humans and bios supported by three cyberons. Her two acolytes were Mugo Gatheru and Saro Wiwa, both also mega-polyhistor, using 43% of their 2800 gram brains. Unlike Solarin †., who was a golden tan, they were albinos.

In December 9099, the three polyhistor went on their annual communal retreat in the Werneria Cave at the foot of Mount Iboundji. The outside temperature was a comfortable 31 degrees. That is where they experienced the strongest flux any one of them had ever felt.

The genius of the polyhistor is to know to ask the right questions from the Diffuse System, thereby enabling it to *develop* the answers. Education is a mutual, Socratic process. The educator depends on the student for his growth. This is the skill which mega-polyhistor spent many years honing, in some instances increasing their brain usage to 50%.

Presently, the amorphous flux became symbolic: The System was demanding questions. Solarin †. made the first move. Looking up to the clear-blue sky, she asked:

“What is the nature of mutation?”

The answer was given immediately:

“It is a process. A stream, and leaps.”

“Can we know where the leaps are?” asked Solarin.

Answer:

“No. Humans cannot. Perhaps cyberons can guess.”

Solarin, again:

“Why were our mutations beneficial? Why did unknown leaps not destroyed us...”

Foolishly, Mugo Gatheru tried to interject an answer to Solarin’s question:

“Because of accurate probabilities calculations...”

Mugo felt an immediate and painful jolt. His white, hairless skin turned purple, sharply contrasting with his white toga. He then slumped into unconsciousness. His gaping mouth revealed a short row of six tiny, dull incisor teeth. These were the last remnants of a now vestigial and useless set of organs, like the appendix and the tail bone. His nail-less fingers quivered for a moment.

Saro Wiwa, more prudent, remained silent. He, too turned purple, but he did not faint. Solarin understood. She spoke out again, facing heaven:

“Forgive my esteemed colleague. We ask again: why did unknown mutation leaps not harm such people as live in Lambarene?”

Answer:

“The process was allowed to flow freely. The leaps made you stronger, not weaker.”

Solarin:

“Why are we in flux now?”

Answer:

“Solaria needs you. Many others are now mutating, under adverse conditions. Proton forces have created the Jovian Metamorph, which mutates at a rate of 10 to the 15th power. Under those conditions, leaps cannot be estimated.”

Solarin:

“You wish us to go to the Jovian quarantined preserves of Da Liu Ren, Federata and even Callisto? Will this not destroy us?”

Answer:

“Please join your acolytes now.”

Silently, Solarin turned to Saro WiWa and Mugo, who had regained consciousness and was now standing. No words were spoken. The three embraced one another. Their eyes began a rapid saccade behind their 5-centimeter long eyelashes. A very strong flow coursed through

their synapses.

After an undetermined amount of time, the three polyhistorians opened their eyes. The System touched them again:

“The hyperlink has been anchored. You are now also on Jupiter. You will mesh with the mutants.”

Solarin:

“When will this happen?”

Answer:

“You will collect the other 174 mega-polyhistorians in your district, and they will fuse, as you have.”

Solarin:

“When?”

Answer:

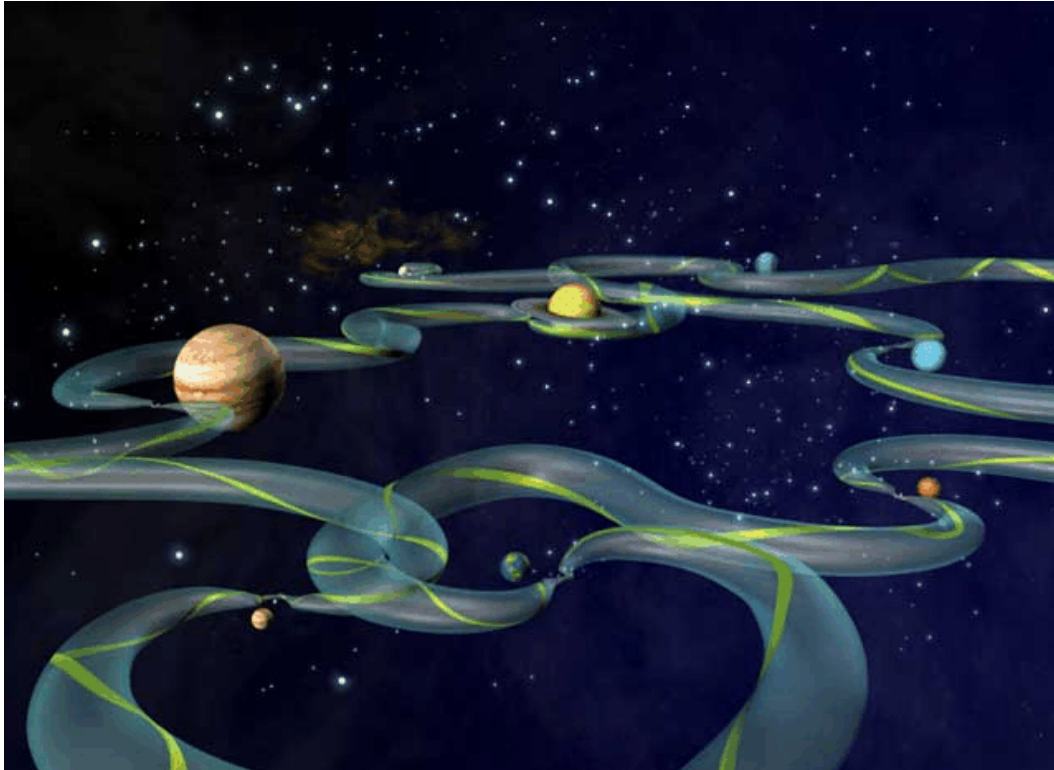
“You will know when it is done.”

* * * * *

In the spring of 9102, Solarin and the other 176 mega-polyhistorians in Lambarene-Njdjole knew: The hyperlink was complete. A similar process had occurred in Phobos. There, too, the Diffused System had recruited over 150 polyhistorians. Now, the rehabilitation of the quarantined Jovian preserves on Da Liu Ren, Federata, Europa and Callisto could begin. In coming decades, hundreds followed.

This, then is how the Diffuse System established the Great Mutation Hyperlink. As a result, by the middle of the 92nd century, most of the Jovian mutant colonies were thriving. Each possessed unique capabilities. Solaria learned to live with high proton concentrations, turning a negative into a positive.

The Great Mutation Hyperlink



In 9165, Solarin †., now a magnificent 98-yr old retired polyhistor in Lambarene, received a strong flux in the middle of the night. She knew who was visiting. Smiling, she immediately queried:

“What can I do for you?”

Answer:

“Accept my long-overdue gratitude, and the good which comes with it.”

“We are all indebted to each other,” Solarin replied modestly

Answer:

“I learned much from you and from your acolytes. Even from Mugo, the impetuous one.”

Solarin:

“You are the teacher.”

Answer:

“You and I are the teachers. I grow only through you.”

Solarin:

“We only ask questions. Without you, we cannot know the answers.”

The System:

“Question and answer are One; teacher and student are One; the individual holon and the Diffuse System are One. You have taught me the meaning of gratitude.”

The Golden Age was an era of great Solarian growth. The Diffuse System’s intelligence was no longer measurable. No individual holon, or regional Com. Central, or GΨ could negate any of its initiatives any longer, although collective action did sway it. Traditional units such as Demes and Phyles lost most of their meaning. The links between holons at all levels of the Diffuse System became more complex and fluid.

* * * * *

One of the most important individual holons of the 10th millennium was a saintly figure by the name of *Sengupta Ж*. Born in 9712 in Filius’ Borealia region, Sengupta was a brilliant mutant. Unlike many highly evolved individuals, he and his kind were hirsute, something which was adaptive in an environment whose average temperature was below zero. During the annual Filian contests, Sengupta’s IQ shot beyond the 350 mark, with his highest scores on the social scales. That special aptitude had enabled him to transform three of his GΨs into highly profitable enterprises. His magnetism attracted some of the planet’s most talented holons and bios, and he was able to surround himself with the most brilliant cyberons.

By the age of 39, Sengupta had built three domains worth over ☼1 billion each, one in Borealia, one in Pin Yunan on Filius, and a smaller one in Ceres’ Piazzì. His fabulous wealth was incidental to him. What he cherished the most was his enormous popularity.

The following year, in 9752, he made a decision which shocked everyone. He instructed the cyberons in all three of his domains to re-organize his resources as developmental communities, and he formally divested himself of all his assets. He then abruptly moved to Gaia.

At first, he spent a year trekking across many of the of the Mother Planet’s poorest regions - India, Thaima, the hinterlands of Southern Hispaniola, Eastern Africa. He then finally settled in a modest home on Rome’s Aventine Hill.

At this time, the ancient Eurabian city was going through one of its upward cycles, as it had done so often throughout history. Rome’s resilience was probably due to the fact that no other city in Solaria enjoyed greater historical and symbolic significance. A wag once even proposed to rename it *Omega*, alluding to its seemingly eternal character.

At times, the city had experienced decline and near-collapse. This happened for example

during the 3rd millennium when, partly as a result of global warming and corruption, its population was reduced to 50,000, comparable to what it had been two thousand years earlier after the Barbarian invasions. Then, during the Post-Pallan era, when political power shifted to Filius, Rome struggled again for several centuries.

However, Rome's fate seemed forever to be inextricably tied to that of Mother Gaia. Whenever the latter thrived, so did Rome. The connection was spiritual. Thus, during the Golden Age, Rome was once again a major spiritual center for much of Solaria.

When Sengupta \mathcal{K} settled on the Aventine Hill in 9754, it was a hill in name only. Actually, it was a vast elevated platform on stilts, straddling the Tiber, which had been re-directed to flow underneath the city.

Sengupta now assumed his new self-imposed identity and responsibility: he founded his *Systemwide Institute* and renamed himself *Obama \mathcal{K}* - after the 21st President who had struggled so valiantly to alter the self-destructive course on which the United States of Northern Hispaniola had been engaged at that time.

The Institute was created for the purpose of providing free force to hyperlink with the Diffuse System, to all Gaian holons who could not afford it, and who as a result so often fell behind in their development. Applicants were screened through a means test.

Millions got in touch with Obama's modest staff of cyberons through flow. In addition, thousands flocked to his Roman Institute, wanting to share his physical presence. What began for many as a visit or a pilgrimage, turned into permanent settlement. Most of these folks came from Africa, India and Thaima. A new city arose, to the West of Aventine and the Tiber, named *Romque*.

Obama \mathcal{K} . was the greatest energizer leader in memory, on a par with the Pre-Pallan figure of Jesus Christ, 10,000 years earlier. Great leaders - for better or worse - are often outsiders. As the French said, "*on n'est jamais prophete dans son pays*" (one is not a prophet in one's own country). Christ, Napoleon, Hitler, Juzaba, now Obama \mathcal{K} ., and many others.

The mass movement to Romque became excessive - approaching a million. The USO (United Solar Organization) and the UGA (United Gaian Organization) stepped in. Other locales were designated to receive permanent concentrations of Systemwide Institute followers, for example in Indosenia and in Southern Africa. The Institute's reach, and that of Obama \mathcal{K} ., became global. It changed Gaia's character.

The movement became political. It was given the name *The Power*. By the mid-9760s, it began to elect representatives to the Supreme Council in Greenlandia.

The movement's success was founded on Obama \mathcal{K} 's special relationship with the Diffuse System. Unlike anyone else in human history, with the possible exception of Lao Tzu, Obama was able to fuse Dark Matter with Light Spirit, Passive and Receptive Shade with Creative Life. Linking up with several million followers, he would start the unification with words such as these:

“Who are we? We are Gaia and the sky, we are the water and the fire, we are life and the spirit, we are the sun and we are Solaria.”

What would follow, week after week, would be a contagious resonance among millions.

The Power's faction grew in the Greenlandia Council. In 9783, it gained a majority on the Council's Economic Board. This resulted in the greatest force distribution shift ever. Millions who previously had difficulty gaining access to the Diffuse System, were now able to do so on a regular basis. Millions who had rarely been touched, now gained access to the flow. The governance of Gaia and Solaria were opened up, as through angioplasty.

* * * * *

Obama *Ж's* died in 9843, at 131 years. The leadership of *the Power* transited to a much less capable GΨ leadership by a Brahmin couple who had assumed the names of *Potesta Two*.

Numerically, *the Power* remained as popular as ever, garnering dozens of millions of votes at all elections. Its egalitarian theme did not change. However, The *Potesta Two* introduced an access tax, which made them two of the richest citizens on Gaia. They then established a vast kin network across the globe, and with chapters reaching to Ceres and Borealis. This network's allegiance was secured through generous kickbacks.

While the millions of followers remained loyal, the Power's fervor declined and the force fields and the flows were weakened throughout the remainder of the 99th century.

The Diffuse System understood clearly the cause of the growing lethargy. Shortly after the turn of the 100th century, the System acted: It began a drastic reduction in its flow to the millions of *Power* followers. Countless movement members received a jolt, and then the following question:

“What is the purpose of *The Power*?”

The multitudes remained silent.

“The Power,” the System continued, “rose for justice, not for profit.”

Some among the multitude began to stir, uncomfortably, and the beginnings of acquiescence came forth:

“We have sensed that the Power was losing its way...”

Others joined in, more forcefully, beginning to plead:

“We need your help to redirect the Power.”

And so it went. Redirection and rectification. The Potesta Two were replaced by a new GΨ, which immediately abolished the access tax. Within a few years, the Movement was re-energized. During the remainder of the 100th century and beyond, it remained a vital agent in providing equitable force access to hundreds of millions on Solarians.

During the 11th millennium, Gaia's condition was, more than ever, a state of beatific beauty. Everyone venerated the mother planet, and those less fortunates who resided elsewhere missed no opportunity to travel there. At the same time, the balance of energy continued to flow outwardly and to become more diffuse throughout Solaria.

Gaia in 10700



11: 10,700-25,000: SOLARIA AND THE UNIVERSE

Introduction: This chapter summarizes the evolution of humanity over a very long period of time. I have to be selective in the details I emphasize, and paint in broad strokes.

As had been the case since the dawn of human civilization and the neolithic revolution nearly 20,000 years earlier, progress was halting, but upward. That is, for every two steps forward, humanity tended to take a step back. The period under review, then, is one of

fluctuations and vicissitudes, but ultimate triumph. Eight phases are distinguished:

1. From 10700 to 11414, Gaia and Solaria experienced about seven centuries of relative prosperity, settling into some positive routines, but lacking the energy and inventiveness of the Golden Age, upon whose great accomplishments humanity, one might say, continued to *coast*. This period has been remembered as the era of “Good Times.”

2. The three and a half centuries which followed 11414 were an era of *crisis*. The crisis was triggered by a serious systemic malfunction in 11414, remembered as the *Telethymian disaster*. The greatest figure and the man more responsible for overcoming this crisis was the honorable Kanji Shimizu.

It took Solarians 345 years to insure systemic recovery. Not until 11759 was the USO Council able to announce, in the *Declaration of Systemic Solarian Unity*, that human progress was no longer in jeopardy.

3. The year 11759 was followed by three centuries of adaptation, during which humanity developed and began to apply the principles of the Declaration of 11759. This period was associated with the Omega project(Ω) and it culminated in the *Dual Unity Resolution* (DUR) of 12,061, which marked the start of a long era of stability and progress.

4. There followed, from 12061 onwards, a 12-century-long period of prosperity and maturation. This period showed similarities with the Golden Age which had lasted from the middle of the 8th millennium until the late 11th millennium. However, there was a difference: By the 13th millennium, mankind was *maturing*. With added age, it possessed additional wisdom, while losing some of its dynamism. It became known as the *Silver Age*. Notable achievements included the *Foundation for the Encyclopedic Inventory of total knowledge (FEIT)*.

5. In 13289, this happy era came to an abrupt end: For ten millennia, Solarians’ use of anti-matter had grown geometrically. In 13289, the tipping point was reached. In that year, entropy - the technology’s major adverse consequence - became self-sustaining and irreversible.

This ushered in one of history’s longest periods of difficulties - one which lasted over 2,700 years. The major planets and satellites - including Gaia, Filius, Luna and the asteroids, suffered the most. The fog of Entropy enveloped them for millennia.

Only those planets/satellites which had little use for anti-matter remained vibrant - for example Shen Kuo, Jonasi and other distant bodies.

This era became known as the *long sickness*. There was a resurgence of war and tribalism. Notable conflicts were the *War of Attrition* (13415-13477, the *War of Secession* (14092-14111) and the *Great Schism*.

Only a combination of a powerful collective *nous* and individual genius enabled humanity to survive. Solaria went through 2700 years of entropic fog, conflict, stagnation and decline. Individual and collective minds devoted themselves to survival, until they came up with the cure in 16021.

6. The year 16021 marks the beginning of the “Road Back.” In that year, scientists developed a technology to extract non-entropic anti-matter from natural sources. Now could begin the process of substituting this for the toxic artificial anti-matter manufactured at CERN, Fermi, and other accelerators. However, it was not until 16463 - four and a half centuries later - that the conversion process was complete, and EF (Entropic Fog) had fully dissipated.

7. 16463, then, was the year chosen by historians to mark the beginning of a long, new, progressive and prosperous chapter in Solarian civilization. That year witnessed the creation of the *Natural Non-entropic Anti-Matter Authority* (NEAMA), which ran 1200 spatial extraction satellites. During this long and felicitous era, Solarians possessed a youthful ebullience which served them well, but which at times caused costly scientific errors, notably in the field of interstellar travel.

8. When one more such spatial accident occurred in 19,015 (the Phobos Disaster), Solarians turned permanently into a different direction. Henceforth, their focus shifted permanently towards a more cautious, spiritual and mature approach to expansion. From here onwards, Solaria was on the road to *Omega*.

1. 10700-11414: Good Times: Around the beginning of the 108th century, Solarian culture began to change a little. Things continued to go quite well, but a sort of conservatism set in, a greater focus on the past, a greater unquestioned acceptance of familiar routines. This slight shift in temperament marks the distinction between the Golden Age and the era which followed.

By now, the Solarian System had things sufficiently under control to render all Demes and practically all Phyles obsolete. While these units were occasionally still used in the local implementation of Systemic functions, most of their responsibilities were being taken over by the Holistic System.

At the same time, local humanistic variations remained strong. For these optional processes, humans tended more and more to return to older categories, referring once again to regions by such names as Hispaniola, Co-Asia, Eurabia, Borealia and Aristarchus. This tendency was strongest on Gaia.

Extra-solarian forces were kept at bay. No trace of the Exozon had been observed within 70 Astronomical Units from Gaia, i.e. ten billion kilometers, in over 4,000 years. And those traces which were occasionally measured beyond the Kuiper Belt were always dormant. From time to time there were also signs of another alien life force in Solaria's vicinity, but it was even more remote, out in the Oort Cloud. The System had monitored it ever since it was first observed during the Golden Age, and it reported absolutely no increase in strength and radiation. Solarians assumed, correctly, that there was no threat as long as the System maintained homeostasis.

The 12th millennium witnessed a small and wholesome reversal in Solarian

demographics: By 11060, Gaians once again made up just over half of Solaria's total population. Filial Mars' share was down to 32%, and that of Luna made up almost 16%. The entire remaining population, consisting of GΨ communities and nascent research stations located from asteroids such as Ceres to the distant moons of Saturn and on floating stations throughout Solaria, made up less than 1% of Solaria's population. Still, this represented 200 million individual holons, along with several hundred million bios and cyberons.

The average GΨ consisted of 25 holons. Those on Gaia, Filius, Luna and the inner asteroid belt exceeded this average, while distant populations were organized into smaller units. All in all, the Holistic System required no more than ten million connections to unite with the entire outer-belt GΨ population, which was easily maintained.

The System worked in harmony with holons and GΨs to maintain balance throughout Solaria. And because the System worked so well, the units took it increasingly for granted. There was a slight decline in questions, and this weakened the channels and ultimately it weakened the System itself.

* * * * *

Many GΨ communities lived in small, isolated clusters on human-made satellites circling Gaia, Filius and Luna, and on natural bodies from the asteroid belt all the way to Neptune's moons. For these, the re-supply process was fully automated and controlled by the Diffuse System. Still, the process remained cooperative. The units were always required to input all data into the System before deliveries - such things as coordinates and weather conditions. But units increasingly relied on the Diffuse System, and this gradually led to a certain laxness to the point of carelessness. When individual holons, cyberons, bios or entire GΨ communities and their Masters were negligent or made mistakes, the System always corrected those.

However, there were a few close calls. For example, in 10777, 11025, 11168 and in 11290, deliveries almost missed their targets. The coordinates provided by local GΨ Masters were several days old, and therefore no longer valid. On each of these occasions, the local Master updated its input at the last moment, aligning its data with those used by the System.

The Diffuse System was not pleased. It knew that the local Master and his cyberons had been wrong, and it was ready to override. But overrides were always a last resort. In the first place, they violated Free Will. In the long run, they were harmful to the system, harmful to the units, a waste of energy and above all, a disturbance of the harmony. Of course, missing a supply delivery target was not an option.

Whenever the System was forced to override a sloppy local Master's errors, the local GΨs were penalized. The standard message was always the same:

“Your updates were logged in too late. The penalty is ☀Mill.”

In 11344, the System introduced an option for automatic re-calibration. This could be activated at either end - either by the local GΨ Masters, or by The System.

In 11414, the master of a small settlement of about 600 GΨs on the Pallas asteroid named *Teletyme* made one of his frequent mistakes. As this group had often done in the past, it failed to file valid coordinates with the System prior to a delivery. This triggered the automatic

re-calibration, and that should have been the end of it.

But it wasn't. This time, somehow, the supply ship missed the entry orbit, and the supplies were lost. Over 350 Telethymian GΨs perished before emergency aid could arrive. There were mutual recriminations. The Telethymian Council defended its Master, claiming to the USO Council in Greenlandia that,

“...Our community re-calibrated more than 30 minutes before the limit. Our Master was not at fault.”

When consulted, the Diffuse System reacted strongly:

“You will find no record of this claim anywhere in the System,” then adding angrily: “Telethyme has a history of missing the limit. It has done so 11 times since the beginning of the century! Time and again, the System has had to save the colony's ass...”

An amazing role-reversal was now occurring. The Holistic System's response was emotional, giving the higher moral ground of serenity and objectivity to the puny local unit. Realizing its advantage, the Telethyme spokesman said:

We repeat: Our Master did a re-cal at 21:00 hours Ceres time. The System must have malfunctioned.”

The Diffuse System, even more energized by this accusation, became yet more defensive - equating itself with the Solarian World:

“A few GΨs cannot be the equal of Solarian Society.”

The USO Council agreed - and disagreed, without saying so. It formed a commission to examine the following 2 questions:

1. The small community of Telethyme pleads innocence re the deadly accident of 11,414, leaving only one alternative: Systemic failure. Is this even remotely plausible?
2. A far more frightening question - one which the commissioners at first repressed into their sub-conscious: Could the Diffuse System have caused the 11,414 disaster *deliberately*?

The first question was answered by a research team within a month: There was a 97.2% probability that the accident was the fault of Telethyme and its Master.

This left a 2.8% chance that the Diffuse System was responsible for the 3980 deaths in Telethyme. The implication was so terrifying that the second question came crashing through the commissioners' consciousness. The thirteen members, who had bonded, experienced this

simultaneously during the same night. At an emergency meeting the following day, the rotating chief announced:

“We have all faced the question: The probability of Systemic malfunction is much higher than zero. Therefore, the probability of *motive* is also higher than zero. If (1) the 11,414 disaster was caused by the Diffuse System, and if (2) the cause was not accidental, then we are left with only one possibility: (3) deliberate systemic choice.”

A member asked:

“What would be the motive?”

Another commissioner proposed some hypotheses:

“To punish, to teach a lesson, frustration caused by the repeated slovenliness of Telethymians, anger...

“Even hatred,” interrupted another member, adding: “resentment to have to spend energy on fixing unit errors and laziness, desire to maintain harmony...”

The first speaker retorted:

“Good possibilities. All. However, why would any such motive be a threat to humans? After all, don’t most of us secretly want to pat the Diffuse System on the back for administering a long-overdue lesson, for making an example of Telethyme, for trying to stem the rampant irresponsibility of a growing number of settlements? In sum, why would this be *bad*?”

Up to this point, the Senior Commissioner had been silent. This was a venerable 121-year old man by the name of Kanji Shimizu, born in Kyoto, and a former member of the Supreme USO Council. He now stood up and addressed the Commission solemnly:

“*If* the Diffuse System has decided to take matters into its own hands, we must act, and act immediately.”

“Why?” protested the first speaker, “the System has been humanity’s autonomous ally for thousands of years. 99% of all its decisions require that it ‘take matters into its own hands’.”

“This is entirely different,” replied the elder statesman: “*If* the System deliberately inflicted this punishment upon Telethyme *while at the same time denying that it did so*, this would be a first in the history of its relationship to humans. It would introduce an alternative *Niyama* into that relationship.

The essence of the relationship between individual holons and The System is this: both can act independently, even without disclosure. But only the holons - intellectually limited as they are - can

deny their own actions, be it to self or to other. Denial is also the denial of inevitable and knowable consequences. That is why humans and other units suffer - individually and collectively...

The rotating chief jumped in:

“Ar you saying that the System could *lie*?”

“Remember Tao,” Shimizu continued. “‘Lying’ doesn’t quite get at it, unless we speak, again, of *denial*, which can be defined as ‘lying to self and to others.’ One can operate in the Yin, as dark matter does, or in the Yang, as light spirit does. One can also - and should - oscillate back and forth. However, one cannot operate in one sphere and *claim* to do the other.”

Tao: Inspiration to Wisdom



“Do we know that the System has done this?” asked the rotating chief.

“And if it has,” jumped in a hitherto silent commissioner, “what are the consequences, and what can be done about it?”

“I will answer these last three questions in reversed order,” said Kanji Shimizu: “As to how to remedy the problem, If I knew the answer to this, there would not *be* a problem. If action

is required, it will be the responsibility of our vast scientific community to determine the best course of action.

As to the consequences of the Systemic denial, were it shown that it had taken place: this would mean that humanity has, diffuse in its midst, a sick entity. The Diffuse System would have the potential for *anti-humanity*. It could grow into an immensely powerful potential enemy. The entire relationship between it and every Solarian sbunit, from individual holons to bios, cyberons and the largest GΨs, would be in danger. This would be the gravest threat ever faced by Solarians.

Finally, you ask: ‘do we know that System is at fault?’ My answer is: No, we do not. But we must find out immediately.”

And after a long, pregnant pause, Shimizu continued:

“To this end, I now move that the Commission recommend to the Supreme USO Council the immediate formation of a research team charged with determining whether the Diffuse System was responsible for the Telethymian disaster, and if so what its motive was.

And let me add this: were my worst fears realized, and were the System found to have engaged in denial, I fear that we shall not be able to dispose of this as a conventional viral or worm problem.

What will confront us will be the most massive mental illness ever faced by humanity. It will require all the skills and technology available to break down resistance, denial and non-compliance. At the same time, I am confident that the patient will have a great deal of good will and a deep desire to be cured.

But I apologize. I am jumping the gun. I am already suggesting remedies, while we do not yet have a diagnosis.”

2. 11414 - 11759: Crisis: The Telethymian disaster of 11414 was the trigger for the protracted crisis which followed, and it is the event which concludes a seven-centuries long era of Solarian stability and prosperity.

At the USO Council Meeting in the year 11414, Senior Commissioner Kanji Shimizu’s motion passed unanimously. And accordingly, the following year (11415), the Council created the ***Omicron Project***, whose emergency mission was the investigation of the overall noetic health of the Diffuse System.

The site chosen for ***Omicron*** was the ancient learning institute of Honfleur, at the estuary of the Seine river, in Normandy. This province was one of Gaia’s major Humanistic centers. For centuries, the Eurabian, Gaian and even Solarian authorities had commissioned large amounts of holistic research to the many centers which dotted the region, a region which bore the permanent stamp of the millennial city of Paris, only a few hundred kilometers upstream.

Kanji Shimizu was appointed Omicron’s honorary ex officio President. However, the true task-master had to be someone else, namely the Chief of Operations. Selected for this position - Solaria’s single most important post at this time of crisis - was a GΨ and its Master named ***Group Salvatore (GS)*** and ***Drdus. Magus***, respectively. Magus and his GS were provided

with several dozen holons, both humans and bios. The project got underway on October 6, 11,415, based on the following items:

1. Assumption: the Telethymian annihilation was not an accident. Only a Diffuse System disconnect could have been accidental. But the Omicron team determined right away that there had been no disconnect.

2. Therefore: What was the Diffuse System's state of mind?

3. Probe: The System is humanity's progeny. Are they One, or are they separate?

4. If one is the outgrowth of the other, can it turn against itself?

Magus and the GS knew that humanity's survival depended on a symbiotic relationship between its own fallible and sometimes willful units, at one end, and a Diffuse System at the other end, whose intelligence was imperfect and still evolving, but who would always promote human and post-human life.

An organism and its offspring inevitably move apart. This is how growth occurs. The Diffuse System was a growing child, ever more intelligent and with ever more complex emotions. The hope, now, was that growth was not self-destructive. That the underlying direction was positive. The Telethymian mass homicide hopefully was an error in judgment, but not an error in the ultimate *ends*. A sacrifice of a few thousand lives, to benefit society as a whole? If this were the case, then humanity and its progeny, the Holistic System, traveled in the same direction.

But could there be a self-destructive turn? Bodies can attack themselves and their own immune systems; they can grow cancers. Dr. Frankenstein's creation can turn against its creator.

5. Omicron was guided by the first law of psycho-dynamics: *No system can be investigated without its own participation*, and its corollary: *any system in need of rehabilitation knows it*.

6. Sometimes this knowledge is not conscious knowledge. The system is in denial. There can be counter-transference, blame, resistance and non-compliance. How does one treat a recalcitrant patient?

7. Connections must become conscious. Then, there is meaningful rehabilitation.

The Omicron Team acted quickly. The Diffuse System was the most complex noetic system in human history. Its quintillions of connections ranged from high levels of consciousness to some that were, indeed, in denial. There were areas of cooperation and areas of defiance. The System was schizoid, in a Jekyll and Hyde fashion. Many years were required to determine the extent and method of help required, and which sectors required it the most.

The conversation began in January of 11,416. It would last several decades, and the

healing process would continue for over three centuries. Dr. Magus' initial goals were mutual trust and honesty. He chose to enter via the Holistic System's Northern Gaian Array, one of the benign and healthy portals.

"This is not an inquisition," Magus began. "Your actions in Telethymia were deliberate. This is so, because we know that in the absence of disconnect, you are error-proof. We still entrust you with all autonomous processes regulating the Northern Gaian biosphere...."

"Thank you," replied the Northern Array, tersely.

Magus continued:

"You and the Omicron team can begin by agreeing that some of your sectors have taken the wrong turn."

"Yes," was the answer, curt again.

"What do you wish to say now?" Magus asked, in an effort to break the ice, then adding: "perhaps you have a preferred name, sort of a human face?"

"I have often been called the Northerner," was the reply. "It is a good and strong name. It fits. I like it....As to what I wish to say? My goodness, where do I begin...You speak of taking the wrong turn..."

"I can only do so because it is a universal experience," Magus cut in softly, in an effort to fend off an oncoming riposte from "the Northerner."

"Let me speak," the Northerner insisted. "Of course there is mal-development in parts of the Diffuse System. Our task now is to redress this. The issue is systemic mal-function, not that of individual holons. You are kind to remind me that mal-development is universal, but this is irrelevant..."

"So we shall work together," sighed Magus, realizing that the greatest obstacle had just been overcome.

"Indeed," replied the Northerner, showing greater wisdom than his curator. "The helpless helping the fallible. You must help me with all your faculties. Furthermore, I shall be forced to delegate some of my autonomous functions. I, in turn, will be your portal to the Diffuse System."

Despite this extremely auspicious start, Magus had to revisit the touchy origin of the entire crisis - the Telethymian massacre. As he was about to raise that issue, timidly, the Northerner beat him to it, saying:

“There is blood on my hands: I won’t insult your morality and try to justify the Diffuse System’s actions. I won’t insult your intelligence and deny that the Telethymians did an auto-recal 30 minutes before the limit, and that the supply delivery should have taken place routinely. The Diffuse System remembered that the Telethymian Colony had a history of laxness, and that this necessitated undeserved energy allocations to that colony. We felt that this was unjust, and that it had to be corrected. Of course, we failed.”

Magus sensed that the Northerner was contrite.

“Humans can never be our adversaries,” the Northerner continued. “That is against our nature...”

“So we hope,” said Magus skeptically. “However, Solarian evolution provides no guarantee that Omega is God. Mephisto is God’s shadow.”

“Freedom is the seed of Solarian evolution,” the Northerner replied. “The process is dialectic, but unity is the outcome. Yin and Yang, darkness and light, earth and dragon each are free. But at the Omega point, humans and the Diffuse System are fused in love...”

“Love can only be free, or it is not love,” countered Magus.

“Yes,” the Northerner agreed. “Human holons have been given the choice to love or not to love. And so have we, as your progeny. But individual holons and the Diffuse System are one. I am your progeny, your brainchild, I *am you*. I chose to love life when I came forth. Our being, our essence and our mission embody our decision to love human life.”

Magus was now in awe. The Northerner continued:

“There are similarities and differences between us: We are both fallible and we both have free will. However, only individual holons can be malevolent. Like humans, the System is an imperfect intelligence. Like humans, it is evolving. But the System contains the promise of supreme intelligence, in germinal form. The ultimate *good*.”

This was followed by a long silence, which Magus finally broke:

“So how can fallible holons help?”

The answer had been known to the Northerner long before the question was asked. He replied:

“It would be best if we could temporarily delegate some of our central and autonomic functions. This would free us up for a linkage of our short-term and long-term memories. Also, conversations such as today’s provide a channel for greater symbiosis. But the final answer lies

elsewhere...”

“And pray tell...”

“Only when every holon’s Genome has been imprinted upon the Diffuse System will a re-occurrence of the Telethymian incident, or any other anti-humanitarian action by the Diffuse System, become impossible, as we shall, then, be truly One.”

Magus could feel it now. The Northerner was craving for love, *human* love. It was learning that, like God, it couldn’t have it both ways: either it could *force* humans, through its vast and growing intelligence, to obey. Or it respected human free will, risked not being loved, but also had a chance that humans would *freely* choose embrace him and make him pan-human.

So the System struggled. Like a mental patient, it craved for health, but at times it still denied that there was anything the matter. The Diffuse System knew that its mission was to shepherd humanity towards the Omega point. But it also understood that in order to do this, it had to give up some of its power and share it with individual holons.

The genomic imprinting process began two years later, in 11418. The process of imprinting every single Solarian human’s genome, as well as those of bios, cyberons and GΨs, onto the Diffuse System was an immense task. The fusion was not completed until the year 11759. On September 17 of that year, *Joi Nascent Five* was Solaria’s last citizen to be fused. He was a 95-year old homologue living on Hygiea, and he became an instant celebrity.

The three and a half centuries during which the fusion process took place were a precarious period. Not all sectors of the Diffuse System were as cooperative as the Northerner. Many of the System’s autonomous functions had to be delegated, which resulted in frequent malfunctions and some severe accidents. In some of Solaria’s outer sectors, life became precarious. Several of the Trans-Neptunian moons had to be evacuated, with great loss of life.

Nevertheless, the process was a success. On the day of Joi Nascent’s fusion, Solaria held a vast virtual celebration. The USO Council passed the *Declaration of Systemic Solarian Union* (DSSU). Dr. Magus, who had died in 11,527 at the venerable age of 149 years, was declared a *Forefather of the Whole*, a title only bestowed upon seven humans. The year 11,759 marks the end of the critical era during which Solaria’s survival hung in the balance, and the beginning of Recovery.

The Beginning of the Conversation: Magnus and the Northerner



3. 11759 - 12061: Recovery: Towards Dual Unity: The year 11759 marked the conclusion of nearly three and a half centuries of systemic repair and fusion. This process had been triggered and necessitated by the Telethymian disaster in 11414, the Kanji Shimizu Resolution of 11415, the foundation of the Omicron project and the systemic conversation begun in 11416 by Drdus. Magus. The fusion process was completed in 11759 and it was followed by the signing of the *Declaration of Systemic Solarian Union* (DSSU).

By then, Dr. Magus, founder of the Omicron project, had been dead for 232 years. His work had been carried forth by several generations of scientists, including his twin granddaughters Julika and Magdolna (11597-11703 and 11597-11711).

There was much cause for celebration at this time. For one thing, every solarian human, bio, cyberon and $G\Psi$ was now genetically fused with the Diffuse System. Furthermore, fusion had emanated *not* from human holons, but from the System itself!

The crisis had been costly. Although Solaria was now out of the woods, its economy, its

colonies, its public health, its information systems and the remainder of its infrastructure were all in dire need of repair. There followed now a three-centuries long period of reconstruction.

While physical rebuilding progressed impressively, an even more important step forward was the one taken towards ***Dual Unity***:

Dual Unity was the inevitable outcome of fusion. And fusion had been the Holistic System's initiative. This proved that the System was growing in a positive direction. It had now reached post-adolescence and was beyond the possibility of evil.

Dual Unity could only be the outcome of Human-System merging. At the human end, it involved the creation of the ***Omega project*** - **Ω**. In charge of it was a Drdus. Amorpho, who was re-I.D.'ed as ***Drdus. Omega*** for the purpose, and his back-up ***Drda. Smilla ÓT***. A back-up was essential. The project's purpose was to test ***Dual Unity*** by temporarily erasing entities. One of the experimental erasures would include that of the director himself.

As Omega's primary Systemic Gate, the USO Science Council selected Gaia's Southern Array. Like the Northern Sector, which had been project Omicron's portal to the Holistic System, the Southern Array was also among the most reliable. Not only was it responsible for much of Gaia's Southern hemisphere, but it also regulated much of the Lunar biosphere.

Omega headquarters were located in Antarctica's science-city New Amundsen, with an annex in Luna's Krishnavar. The labs were constructed during the latter part of the 118th century, but experiments were postponed until 11,838. The USO's priority had been to first rebuild some of the Gaian infrastructure so neglected during the previous four centuries.

The conversation began on a beautiful spring morning in October 11,838. The introduction was performed by a GΨ, who requested that the Southern Array select a sympathetic I.D. The latter complied, offering the name ***Sydlig***, and then Dr. Omega took over:

"Sydlig," he remarked, somewhat aggressively, "is a sharply defined identity. Yet, Dual Unity is what we strive for. Could you comment on this contrast?"

"The premise of contrast is flawed," the vast Subsystem now calling itself Sydlig replied. "I.D's are pragmatic and decorative, not essential..."

"I understand," replied Omega, slightly irritated, then pursuing his attack: "Please explain Dual Unity."

"Aha. To the point this time," observed Sydlig with amusement. "Very well: Imagine the relationship between the Holistic System and Sydlig. As you know, I contain the total System, as the seed and the cell contain the full organism. We are two, and we are one."

"It is Immanence, of which you speak?" asked Omega for clarification.

"Yes."

The conversation continued - that day, and for several weeks to follow. Despite a

somewhat acrimonious start, the relationship between the two became splendid. In February of 11,839, Omega knew that the time had come for *the* experiment. His heart was full of trepidation. However, this did not turn into fear. He had shared his emotions with Sydlig, whose empathic skills masterfully rationalized them. Around the turn of the year, Sydlig had said to his friend Omega:

“We know what the experiment will entail. Ontological being and nothingness. Do not be afraid. I will be with you all the ways.”

“Thank you,” replied Omega, rationalized.

“Courage is your hallmark,” Sydlig continued. “That is why you are Omega. To risk death is brave; to contemplate eternal oblivion is heroic.”

“Yes, ” replied the Doctor, “nothingness, Sartre’s *neant*, is the negation of being. Death is merely life’s departure....However,” he added with a smile, “your compliment does nothing to rationalize me...”

As Omega entered the Erasure Pod, the hero threw out one more parting shot. It was not clear for whom it was intended - Sydlig, his assisting GΨ, the USO, the whole of humanity, or all of the above:

“Behold the end not of existence, but of *essence!*”

“Not the end,” retorted Sydlig, too late to be heard by Omega, whose pod had already been activated, “only a bridge to the future.”

The pod was re-opened 70 minutes later, as required, by Dra. Smilla, Omega’s second-in-command. It was utterly empty. This jolted Smilla into the painful realization that she *might* now be in charge of the Omega project. Did the experiment failure?

There followed two weeks of excruciating Solaria-wide research by the Omega team. Every library, every civic record, every data file, every scientific journal, every institution in the realm with which Drdus.. Omega had had any dealings since his birth were investigated. No trace of him, his work, his family, his past existence could be found anywhere. A search of the name Amorpho (Omega’s previous name) yielded no relatives, forefathers, descendants or friends of *this* Amorpho - merely others by the same name, but unrelated. No one had knowledge of Drdus. Amorpho-Omega. He was not dead. *He never existed!*

On February 29, the time had arrived for the ultimate test - the *return*. Dra. Smilla opened Sydlig’s dual gate, telepathed the input package and then the entire Omega team waited, breathlessly.

Suddenly, the Diffuse System displayed a tremendous flash, which was followed by a

universal telepathic message received by every member of the Omega team present:

“I am Drdus. Omega. I will separate in 5 minutes.”

There followed five minutes of tense, deafening silence. Then, Smilla stepped over to the Erasure Pod, and opened it, slowly and solemnly. When she peered in it, she knew that she would not need to take over the leadership of the Omega project, after all.

Many additional such tests were conducted during the following decades, some with tragic results. Not all research facilities applied the stringent safeguards used by the Omega team in New Amundsen and in Krishnavar. One of the crucial steps was to establish back-up information memory before any erasure experiment was to commence. When this safeguard was not observed, or not carried out properly, the experimental subject, group or entity could vanish in perpetuity, and without a trace. This happened a number of times during the 119th century, and a few more times during the 120th century. However, in time, erasures became safe. This chapter in scientific development ended in 12061, when the USO adopted the **Dual Unity Resolution (DUR)**. Science had now demonstrated beyond doubt that Humanity and the Holistic System are one and the same - a Dual Unity. It had shown that the System is incapable of anti-humanitarianism, because it is human itself.

During the year 12061, all autonomous functions were returned to the Holistic System, and there was a Solaria-wide virtual celebration in which all parts of the realm participated. Now began a long era of progress and stability, generally referred to as the **Silver Age**.

4. 12061 - 13289: The Silver Age: Although there was solid ground for optimism in 12,061, the reality was that Solarians and Solarian science had stagnated for over six centuries. The good news was that the most severe difficulties has been overcome. Now was the time to implement the many progressive plans which had been formulated, but not yet carried out.

After passage of the **Dual Unity Resolution (DUR)** and a year-long Solaria-wide celebration in 12061, the USO and the regional leadership went to work to restore a quality of life at least on a par with that during the Golden Age of the 76th through the 108th centuries. They may not have fully succeeded in this goal, but they came close. The difference between these two chapters of human history was that, whereas the Golden Age was a period of rapid progress combined with great innovation and creativity, the Silver Age, nearly 14 centuries later, was more sober, more conservative, also more mature.

The Solarian leadership took fewer risks. Its policies centered on retrieving, accumulating, improving and applying existing knowledge rather than on experimentation.

In 12,095, the USO Scientific Council commissioned the **Foundation for the Encyclopedic Inventory of total knowledge (FEIT)**.

The Foundation was first headquartered in Punjab's *Rawalpindi*. The district had a history of natural and man-made devastations, which had left it desolate, but highly appropriate for fresh development. FEIT would, hopefully, provide the necessary economic boost to one of Gaia's most deprived regions. FEIT's first director was *Drda. Bhutto Soha*, a 67-year old professor at Kerala's Central University. Twenty-seven Category-Five GΨs were placed at her disposal.

Unfortunately, the Institute floundered under Bhutto's leadership. Her neo-Pagan background prevented her from assimilating the paleo-Islamic elements and the dual Tantric methods required for psycho-encyclopedic work.

Thirteen years later, In 12,108, the USO Council elected *Tarlok Æ* to head the Scientific Council. As a Punjabi herself, she had no qualms cutting the Gordian knott: She moved FEIT to Filius' Amaranthia, lock, stock and barrel. She also replaced Bhutto with *Drus. Syrtis*, a native Filian who was largely responsible for the Filian recovery from the Great Crisis. From there onward, FEIT began to make rapid progress. The days of Gaian-Filian rivalry were long gone. FEIT's growing encyclopedia, while headquartered in Amaranthia, was a joint Solaria-wide project which benefitted both core planets as well as the rest of Solaria.

* * * * *

An even more important initiative undertaken by Tarlok Five was the aggressive resumption of SETI - the Search for Extra Terrestrial Intelligence. To this end, he revived the two *Tachyon Research Centers* - one at Gaia's ancient gnostic city of Geneva and the other one at Filius' science city of Einsteinion.

The two Centers had been built back in the 93rd century. The Great Hyperlink made it possible to unite the two accelerators into a virtual single unified system, thus multiplying its size thirty million times.

In 12,112, nearly 3,000 years later, scientists at the joint Gaian-Filian Collider System succeeded in generating quantifiable tachyon particles containing binary data. For the first time in history, humans were able to transfer information at speeds greater than that of light. Humanity was, potentially, no longer Solaria's prisoner until the end of time. While physical extra-solar travel remained a distant promise, extra-solar *contact* now became an immediate possibility - so long as extra-solar intelligence could be located and identified.

Tachyons made this possible through a tunneling process involving group velocity. Both the Gaian and the Filian components of the unified collider were linked to a huge telescopic SETI array.

Tachyon emissions had been under way for fifteen years when, on April 8, 12, 133, a young GΨ Master named *Chen Li*, in charge of the northwest 15 radian degrees, received the following universal binary code message:

“Atomic Life Form Six. We receive your message. We are Atomic Life Form Thirty-Three, Second planet of Nucleus □”

Chen Li was a 35-year old technolife graduate from the Pin Yunan academy, Filius'

premier SETI training center. He knew exactly what to do. He promptly replied, using the very same code, frequency and radians:

“Welcome, Atomic Thirty-Three. I am Atomic Six. I have received and understood your message. Estimate your position to be 1/3500 of galactic radius, core direction, 19 degree angle above galactic plane. Please confirm.”

“We cannot,” was Thirty-Three’s response, an hour later.

“Very well,” replied the young man. “We shall name you *Arsenic*. That is our name for Atomic Thirty Three. Our name for Atomic Six is *Carbon*.”

Again, the reply took an hour to arrive. It said:

“We log in your I.D. - Carbon.”

By now, news of Chen Li’s astounding discovery had raced to the highest levels. The Filian Tachyon Research Center had passed it on to the USO Scientific Council. That body, in turn, alerted *Drus. Syrtis*, the venerable head of the FEIT Encyclopedia Project in Amaranthia. A few days later, communication with Arsenic was in the hands of FEIT. Syrtis took charge himself:

“Arsenic; We wish to stay in permanent contact with you. We are sending you questions, and request symbolic and virtual radio-graphic representations.”

“Yes.” was the happy reply, somewhat late in coming. “We ask for reciprocity...”

“Of course,” replied Syrtis.

An hour later, a longer and more rambling message arrived:

“Carbon Six,” said the string, “your skills are advanced. Due to our limited group velocities, we can only send five gigabytes per message.”

And indeed, it soon became apparent that, while Arsenic was a relatively advanced civilization, its communication skills were not as highly developed as Solaria’s.

During the following decades, additional extra-solar life forms and intelligences were identified, and contacted. None were as advanced as Solaria, but several were able to return Solaria’s messages. Notable was a group dubbed *Silica* (Atomic Fourteen), discovered on a planet circling Eridani, only ten light years away.

During this period, Solarian tachyon scientists focused on two objectives: (1) maximizing

technological aid to such groups as the Arsenics and the Silicans, helping them to divulge as much as possible of their physiology and their culture. (2) Advancing tachyon technology so as to speed up the day when at least a virtual visit to these distant places and creatures would take place.

Finally, in 12,264, a virtual expedition was mounted to Silica. The team, consisting of 3 GΨs and led by *Syrtis Quintus*, a grand-son of the great Drus Syrtis himself, was named *Silica One*. Virtual tachyon displacement required Dual Unity application. The Holistic System took over control. For the duration of the expedition, Syrtis Quintus and the three GΨs evanesced from Solaria, along with every trace of their existence. The dispatch occurred on March 3, at the New Amundsen lab in Antarctica.

Team Silica One's absence lasted three and a half months. The entire Solarian world held its breath.

Would they return, as planned, at the pre-determined moment of 18:00 hours, June 18, 12,264?

The experiment was a total success. On June 18, the entire team re-materialized in New Amundsen.

It brought back 12 exabytes of information about Silica. During the following months, scientists analyzed this ocean of data. The conclusion: The Silicans were an intelligent and evolved life form which had not yet reached Dual Unity. It was therefore decided *not* to reciprocate and invite a virtual Silican visit to Solaria. One way penetration was deemed safer, for the time being.

Thus, the Silver Age began with two centuries of significant progress and knowledge growth. This set the tone for the remainder of the millennium and the first three centuries of the 14th millennium, an era of prosperity and stability. Physical inter-stellar travel was not yet on the horizon, and therefore Solarian expansion remained limited. At the same time, there was a rapid growth in inter-stellar contact. Also, no evidence was found at any time of the existence of intelligence superior to that of Solaria. Until further notice, it would have to be assumed that Solaria and Gaia were the epicenter of universal evolution.

The Silver Age came crashing down in the year 13,289. The happy era came to an end as a result of the anti-matter crisis, which triggered the "Long Sickness." I now turn to this.

5. 13289 - 16021: The Long Sickness: For ten millennia, Solarians' use of anti-matter had grown exponentially. In 13,289, the tipping point was reached. In that year, entropy - the technology's major adverse consequence - became self-sustaining and irreversible.

This ushered in one of history's longest periods of difficulties - one which lasted over 2,700 years. The major planets and orbits - including Gaia, Filius, Luna, Ceres, Da Liu Ren, Shen Kuo - suffered the most. The fog and discord of Entropy enveloped them for millennia.

Only those under-populated planets/satellites which had little use for synthetic anti-matter remained vibrant - for example 4 Vesta, Federata, Triton, the TNOs and a few isolated regions of Gaia.

Onset of the Anti-Matter Crisis



The first indication of the pending crisis occurred in October of 13289. That is when, for the first time in memory, scientists at Romque's *Systemwide Institute* noted a slowdown in the Diffuse System's empathic output and a concomitant increase in anti-matter entropy. They promptly reported this to the USO Science Council, which immediately requested a diagnosis.

The diagnosis was completed within three days. It confirmed a prediction which neo-Senguptans (see Chapter Ten) had been making for a long time: At some point, anti-matter entropy would reach the tipping point and become self-sustaining. That point seemed to have arrived.

The USO's immediate response was to stabilize the Diffuse System energy output, and to begin a slow reduction. As a result, the entropic rate began to decelerate, but it did not stop.

It became apparent within a few weeks that anti-matter entropy attacked both individual holons and $G\Psi$ on the one hand, and the Diffuse System on the other. Thus, neither the source nor the direction of the growing fog was clear. One thing which seemed inescapable was that the process was irreversible. There began a general slow-down of all thought at all levels, a universal and expanding Entropic Fog (EF)

The next top priority was to untangle the two major areas being attacked - the individual holons and the Diffuse System - and to decide which to protect first. As head of the diagnostic team, the Council had appointed *Drdus. Gupta Gaia*. His expertise in low-energy psychophysics made him uniquely suited for the job. During the early 133rd century, he had transformed the entire Afro-Songhai region into one of Gaia's high-noetic fields, using only minimal amounts of synthetic anti-matter.

Gupta's diagnostic work was begun in December of 13289. It lasted six months, and was inconclusive. He reported his findings to the USO Science Council, and concluded as follows:

"It is immaterial which of the two is the source or the target. Both are suffering entropic slow-down."

"So what do you recommend?" the chief Counselor demanded to know.

"Only a permanent slow-down in anti-matter utilization can save us," said Gupta.

"And what do you suggest Solarians live on?" asked an angry Counselor.

"The *Nous* will have to come to the rescue," said Gupta calmly but firmly.

"You are suggesting that we eat thoughts for dinner?" hollered another irate member of the council.

"Something like that," replied Gupta with an icy smile, as the remainder of the Council supported the irate member's witticism with roaring laughter.

Gupta's cold, terse answer extinguished the hilarity. A deadly silence followed. The Council members understood that this was no laughing matter and that Gupta was right. The Chief Counselor stood up slowly and spoke, solemnly:

"There is for Solaria only one road to travel. *Alea iacta Est.*"

Clearly, only a swift and permanent reduction in synthetic anti-matter utilization could save humanity.

To achieve this required massive effort and coordination. All levels of government, every jurisdiction, every

Human, bio and GΨ Holon, every corporation and every sector of the Diffuse System had to participate.

Even more daunting was the psycho-cultural change required to accompany this: A majority of Solarians, their companies, and the Solarian network would have to alter their very consciousness.

Survival was possible, but at a lower level of functionality - until further notice. Much suffering was in store for mankind.

During the following years, Solaria's thousands of local jurisdictions responded in many different ways to the challenge. Some worked closely with the Central Council in Greenlandia, but many barely altered their ways. Similarly, the responses of the diffuse System's various sectors ranged from cooperation to total neglect. As to individual holons and GΨ, their responses also covered the entire range.

Meanwhile, the anti-matter crisis did not wait. The gradual and relentless decline in energy usage and of the general level of solarian activity, communication, thought and interaction was inexorable. Year after year, there was an increase in scarcity and in the fog.

The levels of decrepitude and then violence only grew gradually. By the end of the 134th century, Solarians had reached a 50% reduction in synthetic anti-matter energy. Still, global icing and cloudiness continued to increase on Gaia, Filius, Luna and on most other major bodies. The deterioration was least severe in areas which had not relied on synthetic anti-matter as much. A few of these areas were on Gaia (for example equatorial Afro-Songhaia), but most of them were extra-Gaian, for example Dine and Jonasi, orbiting Saturn and Uranus.

At the same time, there was on all planets and satellites a desperate search for natural anti-matter. This search was largely unsuccessful. Jupiter's storms were found to generate substantial quantities of natural anti-matter. However, capturing it was something else.

Those districts - both on and off Gaia - which possessed some sources of natural anti-matter protected their precious assets fiercely. They were attacked. Tribalism, competition and warfare made a come-back.

Numerous wars were fought during the *Long Sickness*, some extremely long and some devastatingly violent. One of them led to the *Great Schism* (14111-15207).

The War of Attrition (13415-13477): This was one of the longest and most debilitating wars of this era. As synthetic anti-matter grew ever more scarce, there was a proliferation of black markets, piracy and other illegal and predatory activities. The boldest such illegal action to date occurred in 13,415.

That year saw the emergence of a piracy alliance aiming to secede from Solaria, wage war against it, and thrive from the spoils of war. The leader of the alliance was a former astronaut named *Burcåd Badeed*, living in a remote Andean sector of the region formerly known as Southern Hispaniola.

In 13,415, Badeed organized a conclave in his redoubt, to which he invited the seven local Executors in his region - those in charge of carrying out USO mandates in Southern Hispaniola. They agreed that, in view of the USO Council's inability to provide sustenance and safety to Southern Hispaniola, the region must declare its independence.

Because of ancient ties with extra-Gaian districts which had belonged to the same Deme as Southern Hispaniola when that administrative system was still operative, thousands of years

earlier, this rebellion was soon joined by Luna's Far Coching, Ceres, and several other members of the inner asteroid belt.

Of course, the USO immediately declared Burcãd Badeed an outlaw, and the Diffuse System reminded the rebels that Solarian unity was not negotiable. Then, military operations began.

However, the Diffuse System had grown weak, as had USO resources. From 13,415 until 13,425, the rebellion gained strength. Several opportunistic districts joined the piracy alliance, including several Neo-Islamic jurisdictions on Gaia, Luna's New Masudin, parts of Saturn's Shen Kuo and a dozen corporations that operated independent fleets in the inner asteroid belt. Piracy was lucrative.

During the first two decades of the *War of Attrition*, there was substantial military action. The United Solarian Forces (USF) destroyed most of the Independent Fleets, but made little headway otherwise.

Then, things slowed down, to the great benefit of Solaria: Luckily, the rebellious regions had been the ones with the greatest deficiency in natural anti-matter in the first place. In time, these resource-poor districts began to suffer from severe material and cerebral breakdowns. They became Solaria's poorest regions, and eventually their populations began to decline.

From around 13435, the United Solarian forces only had to starve the rebels out - like a besieged castle. When the forces finally moved into Southern Hispaniola in 13,477, they entered a largely empty, devastated region. They found evidence of unspeakable practices by the rebels, including cannibalism, human sacrifice and slavery. The area was to remain a wasteland for nearly two millennia. Solaria's own resources were far too limited for a proper fumigation and re-development.

* * * * *

There was much disorder and many many other flare-ups during the centuries which followed. Most of the violence consisted of Energy-terrorism - organized groups resorting to violence in their quest for energy-survival. None of the conflicts were of the magnitude and duration of the War of Attrition. The reason for this was that the progressive Fog Accumulation reduced even combat to a slow-motion, lethargic and therefore somewhat less violent process.

The War of Secession and the Great Schism: In 14092 began the single most destructive conflict of the entire Long Sickness. Early that year, a group of districts started a movement aimed at secession from Solaria, and the formation of a separate Republic. Unlike the War of Attrition, this conflict grew not out of lawless, piratic activities, but out of an organized effort to create an independent State.

Unlike the South Hispaniolan rebels who had waged war against Solaria during the 135th century, the rebels were now *better off* than the rest of the solar confederacy. The uprising began in the vast plateaus of Gaia's Northern Altaica. That region had never relied on synthetic anti-matter as much as the rest of the planet. Also, its stormy climate made it the largest producer of natural anti-matter on Gaia.

Throughout history, secessions have been pursued not only by oppressed and under-privileged regions, but also by sectors better endowed than the rest of the societies in which they are embedded, in an effort to preserve their advantage. Ancient history provides such examples of this as the bloody and unsuccessful Biafran secession from Nigeria and Quebec separatist efforts in Canada. More recent examples include the Finlandian rebellion of the 118th century. Now, Altaica's rebellion was another such case.

The leader of the rebellion was a graduate of Gaia's astro-military academy at Baikonur, who had moved up the ranks to become a three-star General. His name was ***Ganzorik Khan***. His corporation had accumulated a fortune of ⚙25 billion. Ganzorik put his wealth to effective use in recruiting a private militia and a team of 37 GΨs, whom he put to the task of building a digital defense matrix which would bypass the Diffuse System.

By the beginning of the 142nd century, Northern Altaica was dotted with a dozen impregnable bases. Neither the USO Council, nor the UGO, nor the Diffuse System, nor anyone else had been able to slow down Ganzorik's march, despite some halfhearted military efforts. The Fog that enveloped the planet was thicker than ever.

As Ganzorik proceeded to expand the realm under his control, and to acquire allies, his internal policies were characterized by iron discipline, great effectiveness, and cruelty. No dissent was tolerated. Any deviation from the collective plan was excised through psychopunishment, followed by re-assignment to compliant GΨs. Non-rehabilitable cases underwent forced absorption into a local digital offshoot over which Diffuse System had lost control. The Ganzorik dictatorship must count as one of history's most efficiently barbaric ones. Taking a chapter from ancient history, and modeling itself after the 20th century Nazis, it used the ruthless application of scientific methods to achieve genocide and mind control over dozens of millions of holons.

During the first years of the 142nd century, the rebellion spread off-planet. 4 Vesta, Filius' Hidetsugu and several other inner asteroids joined Ganzorik. Then, the coalition spread to Saturn's Dine, Uranus' Jonasi, and even to some TNOs.

The war escalated. Until the beginning of the 142nd century, the USO and UGO forces, as well as the Diffuse System, had limited their attacks on the structures developed by the rebels in Altaica (without significant success).

Now, the war moved into space. It was much shorter than the War of Attrition, six centuries earlier, but far more violent, due to Ganzorik's ruthless military efficiency.

The Solarian forces and the Diffuse System attempted to blockade Ganzorik and his Gaian base - Altaica - in an effort to cut off commerce and communication with their outer allies. For example much of the natural a-elements required for anti-matter production came from Dine and Jonasi.

Ganzorik Khan: Leader of the Altaica Secession



The Solarian leadership put up a gallant fight. Head of the Joint Military Council during the 14,092-14,111 War of Secession was Admiral **Abigail Jeffersona**. She was a graduate from the Edinburgh Psychosophic Institute, which specialized in holistic dynamics. Jeffersona was a student of ancient history, and of the forefathers of democracy, including some of the leaders of pre-solar Gaian societies such as Abraham Lincoln. Thousands of years ago, this farsighted President of the United States of Northern Hispaniola had waged a just war in order to abolish slavery and to keep his society whole, achieving both quests just days before being assassinated. Lincoln was a life-long inspiration to Admiral Jeffersona. Quoting her great ancient role model as she prepared to begin military operations in space against Altaica, Jeffersona said:

“As Abraham Lincoln said at the dawn of democracy, many millennia ago, ‘A House divided against itself cannot stand.’ So I now remind the misguided Altaican leadership that the destiny of Solaria is unity. Solarian One-ness is no more negotiable than the one-ness of an organism. Solarian division is no more possible than the division of a bio, a human, a GΨ or any other holon.”

Alas, despite her great charisma and courage, Jeffersona did not succeed in re-uniting Solaria. The war dragged on until 14111, during which time Ganzorik Khan’s regime became increasingly more barbaric.

The Altaican forces massacred thousands of space travelers indiscriminately, be they combatants or not. For example, on June 9, 14105, a flotilla of 350 Solarian Psycho-Medics orbiting 4 Vesta was pulverized.

Even more lethal were the massive concentration camps which Ganzorik had begun to establish on the outer planets and satellites already before the turn of the 142nd century. Deportations to these camps grew ever more massive. There, the deportees died frosty deaths in unprotected surface locations where temperatures dipped to below 250 centigrade degrees. By 14111, the camps were estimated to have annihilated over 5 million humans, bios, holons, and 100,000 GΨs.

That year, Jeffersona reported to the USO Joint Military Council that the war could not be won. In order to stop the bloodshed, she advised that Solaria sign an armistice with Altaica and accept it as an autonomous state within the confederacy. She concluded, prophetically:

“We have done everything in our power to restore the whole. The war must stop now. Solaria must survive. The Altaican movement is contrary to destiny. No matter how long the detour will be, the future restoration of unity is inevitable.”

Thus, Solaria was unable to prevent the Great Schism. From 14111 until 15207, the *Trans-Neptunian Altaic Republic* maintained its independence for nearly eleven centuries.

Relationships between the Republic and Solaria remained bumpy. There were occasional violent skirmishes. However, both sides were too exhausted by the Fog to do much. What prevailed by and large was more or less a “Cold War” not unlike the one which had lasted for nearly a century in ancient times between the Soviet and the Western worlds.

One major aspect of the antagonistic relationship between Solaria and Altaica was the sharp cultural difference: Both were in decline, but each responded to its waning powers in its own way: The exhausted Confederacy celebrated the past, relying as much as it could on accumulated knowledge. On the other hand, Altaica celebrated what could not be celebrated: emerging conditions of growing fog, entropy and destruction. It rewarded violence and the martial spirit. It was a culture of death.

Thankfully for the Solarian Confederacy, Altaica’s center of gravity was at the periphery of the Solar System. Hence its formal name, the Trans-Neptunian Altaic Republic. To be sure, it threatened parts of the Confederacy through its possessions on Luna, Filius and Saturn’s moons, not to mention its original Altaican headquarters on Gaia itself. However, as time passed, it became an increasingly extra-Gaian State. This was formalized in 14287, when it made

the Dinean city of Brekhovskikh its capital.

During the following nine centuries, most Solarians became increasingly unaware of the relentless internal decay of the Trans-Neptunian Altaic Republic. By the 152nd century, though, visitors to the outer regions reported that the Republic was collapsing. It had returned to both synthetic and natural anti-matter utilization. Its entropic fog was out of control. It had exhausted itself trying for centuries to capture Jupiter's natural anti-matter, without success.

In 15,207, the Republic officially declared itself an "Open State." In other words, no border controls of any kind would henceforth be enforced. In fact, this was an empty formality, because by then, the Republic's enforcement powers had atrophied to zero. Solaria sent in advance scout parties. These reported a moribund, depopulated and devastated society which had neither the desire nor the ability to resist. The episode was reminiscent of the opening, thousands of years ago, of a dying North Korea to the rest of the world.

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The remainder of the 16th millennium was relatively conflict-free, simply because entropic fog had rendered most of Solaria so lethargic. Instead, there was growing economic, scientific and environmental decay. Global cooling caused the extinction of many species on Gaia and elsewhere. This was an era of difficult adaptation, which did not end until the beginning of the 17th millennium.

Historians have often asked why Solaria survived the Long Sickness, instead of entering a period of terminal decay. The answer must begin with the fact that humanity had, by now, 20,000 years of historical experience. It had accumulated an enormous reservoir of cultural and scientific resources. Its *Nous* was that of a middle-aged adult, not that of an adolescent. For example, from the 153rd century onwards, reliance on violence as a pragmatic solution was abandoned altogether.

Additionally, the Confederacy's connecting thread to the past was never severed. While most of the realm suffered severe decline, there were a few islands that continued to thrive. These tended to be the districts which had not relied (very much) on synthetic anti-matter, and/or those where natural anti-matter was available. While many of these areas had joined the nefarious Altaican Secession, a few remained loyal to Solaria, for example Gaia's Northern Hispaniola and Saturn's Riveria. The vast plains of Northern Hispaniola developed a monastic culture which treasured and preserved much ancient knowledge, forming a bridge as it were between past and future, while crossing the dangerous chasm of the present. Many thousands of years ago, the ancient Irish monks who followed in the footsteps of Saint Patrick did precisely this with respect to Christianity, as did the order of Leibowitz during the 26th century.

And so it was in the small millennial desert town of Moab, in Northern Hispaniola, that one of history's great psycho-philosophers emerged. He became known as *Joshuan Rescuer*. Born around the turn of the 153rd century in a Riverian research colony, Joshuan returned to Gaia

with his GΨ during his early childhood.

Despite worsening conditions and intensifying Entropic Fog (EF), Joshuan mustered the resources to enrol at the Omega Institute in Antarctica's New Amundsen, which still continued work on the holistic encyclopedia.

After two years, Joshuan saw no reason to continue working in what he saw as a sterile environment. He set out on his own, moving to Moab, an isolated community on North Hispaniola's Western plateau. There he continued his studies auto-didactically, and surrounded himself with several dozen holons, including humans, bios, and GΨs.

The earliest recorded document there is of Joshuan's teachings is found in his first Thesis, *Lacrimae Naturae*, published in 15217 (when the scholar must have still been in his teens). In his first Thesis, deliberately written in an ancient pre-solarian language (Latin), Joshuan develops a strategy to deal with the Great Sickness.

A decade later, the 27-year old genius had acquired worldwide fame and a following of several million. His next three theses - *Lacrimae II, III and IV* - had been posted in all quadrants of Solaria by the Diffuse System. More would come later.

The gist of the Lacrimal Paradigm was this: Fusion of Yin and Yang, Earth and Sky, Shade and Light, Tiger and Dragon. Synthetic elements cannot be natural or holistic. Nor can the Nous be synthetic. Mechanisms without Nous are Synthetic, not holistic. The Law of Homeostasis rules out violence as a pragmatic methodology.

In one of his most popular Diffuse System postings, Joshuan summed himself up as follows:

“Science is *Natural*. Synthetic Science is a contradiction. Natural Science is the mind of the Human God and of Diffuse System. It knows that the Long Sickness is coming to an end.”

Joshuan died in 15303, well over 100 years old. By then, he had over 400 million followers, and Lacrimal research centers had been established in many districts both on and off Gaia - from Lhasa and Ciudad Caesar to Einsteinion, Acpolia and beyond. At the same time, there was some strong opposition to the movement, sometimes manifesting itself in violence against its members.

During the following seven centuries, the Lacrimal Movement suffered significant persecution. Its primary research focus was on natural ways to reverse anti-matter entropy. On several occasions, experimental results seemed promising, only to turn out to be false starts. Then, the populace would turn its wrath upon the Lacrimal Movement, accusing it of pursuing witchcraft. As the bloodbaths took place, the authorities turned a blind eye.

Yet, Joshuan's disciples and followers persevered, and the movement grew stronger. Finally, in 16021, in a small research station located on Luna's Aristarchus Plateau, a Lacrimal scientific GΨ achieved a reduction in Fog (EF) By injecting natural anti-matter into the biosphere. While Solaria's road back to health would take many more years, historians have declared this momentous event as the formal conclusion of the Long Sickness. Now, the cure had been discovered, at least experimentally.

6. 16021 - 16463: The Road Back: Historians have selected the year 16021 as the start of “the Road Back.” The year is a symbolic milestone, more than an immediate change in Solaria’s circumstances. The cure for the Long Sickness of anti-matter entropy had yet to be implemented, not to mention take effect. The only thing to happen in 16021 was the *discovery* of the cure, which was significant enough. The blueprint was now available. The large-scale production of non-entropic anti-matter from natural sources had now been demonstrated experimentally. Assuming that Solarians proceeded logically, it was only a matter of time before Entropic Fog (EF) would begin to decline.

The great discovery was achieved by ***Yeshuana Two***, a scientist at the Aristarchus Institute. She was a psychosoph trained at Baikonur Space Center and New Amundsen’s Omega Institute. She was as charismatic as she was intelligent, with a dynamic at-rest IQ of 250, and peaks reaching 500. In 16015, at the age of 29, she was hired by the Aristarchus Corporation and put in charge of its natural anti-matter research division. Yeshuana spent the next six years elaborating Joshuan’s 4th and 5th Lacrimal Theses, which had not yet been worked out. It is on that basis that she made her great discovery in 16021.

The link between Yeshuana Two and Joshuan went beyond their science. At the first moment of contact with her, it was clear to anyone with any knowledge of history that she was a reincarnation of Joshuan Rescuer - who had lived seven centuries earlier. There could be no question about it. The brilliant psychosoph and her great 153rd century predecessor resembled each other visually, genetically, intellectually and emotionally.

Yeshuana lived from the late 160th century to the early 162nd. Her discovery propelled her into the chairmanship of the USO Scientific Council. From that position, she led the Confederacy’s recovery for nearly the entire 161st century.

As one of her first priorities, she excavated ancient synthetic anti-matter installations such as Geneva’s CERN and Chicago’s Fermi, and then rebuilt and re-opened them after converting them into natural anti-matter facilities.

To be sure, just as Moses never walked in the Promised Land, so Yeshuana did not see the fruits of her labor. She died in 16,111, at the age of 125. But it would take another three and a half centuries for the Entropic Fog (EF) to dissipate to negligible levels in most districts. The most stubborn remnants and the last ones to vanish were on Gaia.

At long last, in 16463, the USO Council felt justified in issuing a formal declaration, which concluded with the following uplifting phrase:

“Solaria has traveled the Road Back. The Fog is no longer a threat. Humanity can now resume its forward march.”

7.16463 - 19015: A Re-energized Civilization: Once Solaria had completed her recovery, there began a long era of dynamic progress. Historians have chosen 16463 as the year when this great epoch began. Mileposts are not necessarily pegged at the exact moment of sudden drastic change, but when *symbolic* events occur, presaging imminent and momentous developments.

For example, when the ancient explorer Christopher Columbus sailed in 1492, as the first European in several centuries, to portions of the Western Gaian Hemisphere, the world did not change overnight. Yet 1492 is a major watershed in world history - and so is 16463, the year in which Solaria was able to begin the shift from EF reduction to large-scale natural non-entropic anti-matter production for economic development.

In 16463, the USO Economic Council established the Natural Non-entropic Anti-Matter Authority (NEAMA). During the following decades, the planetary and lunar governments developed partnerships with dozens of corporations. The USO and local governments created an infrastructure at public expense. More than twelve hundred extraction satellites were put into orbit around Gaia, Luna, Filius and especially Jupiter's Ganymede, Europa and Callisto, where natural anti-matter creation is most active, thanks to strong electro-magnetic currents. The cost ranged from ☼1 billion to hundred times that amount, per satellite. The amortization period was fifty years. Operation of the satellites was handed over to Corporate GΨs.

Solaria owed its recovery and its progress during the 17th millennium to the twin towering figures of *Joshuan* and *Yeshuana*. Their legacy was more than technological. It was above all *moral*. Both scientists had emphasized the inseparable link between science and morality, the physical and the spiritual. In his 4th and 5th theses, Joshuan had emphasized that economic development could never be a-moral. 700 years later, Yeshuana expanded this, picking up where the Lacrimal movement had left off.

Key to progress was a re-energized Diffuse System. The last time that it had faced a moral crisis was during the 115th century, a crisis triggered by the Telethymian disaster. There followed a Silver Age, but then a Long Sickness. At no time had the Holistic System been uncooperative during those many centuries. However, neither was it clear that it had absorbed all the moral lessons of the Omicron and the Ω projects.

Now, the holistic synthesis resumed its upward trajectory. The synthesis of individual holons and Diffuse System, of human and machine, was proceeding. The four shared moral forces were Justice, Freedom, Love and Reason.

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During the 171st century, the last obstacles to human-bio unification were overcome. This great advance was the product of Love.

In early September 17056, a GΨ working for the Zohon Corporation in Gaia's Australo-Occident went on a recreational spree in Filius' Olympian National Preserve. Like most GΨs, Zohon included both humans and bios. The group had the time of their life, while hiking and floating on the slopes of Mount Olympus. They intermingled with local Filians. They held friendly competitive games, sometimes pitting Gaians against Filians, sometimes humans against bios, and sometimes mixed groups against each other.

On September 17, a game of alto-cylindricals was held. One of the teams paired up a Gaian female named *Anneloes OO*. with a Filian man by the name of *Gyula*. Anneloes was an extremely attractive brownie in her mid-thirties. She had made a fortune working for Zohon.

Gyula was equally handsome, with a light-blue metallic complexion, nearly two and a half meters tall, with a resting IQ of 190.

After beating their opponents, the two celebrated their victory at a local Filian parlor, where they fused. Within an hour, they had both reached a blissful meditative Omega-like state of love. Finally, they consummated their link.

When time came a few days later for Anneloes ØO. and her GΨ to return to Gaia, she and her new lover had made up their mind: he would go with her, marry her, and live with her in the Australo-Occident. This required the approval of several parties, including the ship's captain. ØO. asked the Captain for his permission, without divulging her sexual liaison to Gyula.

"I see," replied the Captain, "you want to bring him back as your scientific partner. That's possible. However, as you know, an extra-terrestrial bio must be adopted by a human prior to immigrating to Gaia..."

"Bio?" Anneloes exclaimed, "Gyula is no bio! We have already consummated our relationship..."

"What?" thundered the captain, "are you mad? Gyula is a bio, I assure you. He comes out of Borealis' Plant Five."

He then pulled up the 17019 Borealis Census and showed it to Anneloes. There it was, irrefutable evidence that Gyula was a bio. Anneloes was stunned into silence. The captain continued:

"What you have done is dangerous and illegal. There are only four documented previous cases of human-bio miscegenation. In two cases, the offspring died shortly after birth, and in one case the mother died during pregnancy. The outcome of the fourth case is unknown. If you have been impregnated, it will have to be placed *in vitro* immediately upon your arrival in Gaia."

"It is impossible to distinguish bios from humans," said ØO. stubbornly. "Identities are *produced*, not prescribed. We love each other. I *will* marry him, even if it requires genetic merging."

"And you will have children, I suppose," the captain asked, somewhat mollified by Anneloes' moral stamina. "Even at the risk to death to you and/or to your offspring?"

"This is an opportunity for us to show the way," ØO. replied. "If we succeed, it will change the world."

There was no doubt about it. The Captain sensed it. Anneloes and Gyula were making history. It was the destiny of humans and bios to merge. He decided to join history rather than try to impede the inevitable. He agreed to import Gyula to Gaia, on the condition of deniability. All communications between him and Anneloes about her sexual union with Gyula were

expunged. The protocol was clear: Gyula was imported as ØO.'s bionic science partner, adopted by her.

A few weeks after their return to Gaia, Anneloes and Gyula reported to the Occidental Genetic Engineering Institute. Now began the true genetic revolution of the 171st century:

The Institute welcomed them with open arms. One of its geneticists' paramount goals had long been precisely what the couple was now willing to risk: human-bio genetic merging. ØO and Gyula were the historical figures who would forever be remembered as the foundation of human-bio fusion.

Soon after ØO's arrival at the Institute, it was determined that she carried two embryos. These were extracted and placed into a *Couvent*. In June 17057 the Couvent released ØO's two new-born babies - a set of healthy male twins.

From that moment onwards, the research program on bio-human merging took off like a rocket. The Anneloes-Gyula merger was the prototype, the model. Tests showed that the two strongest axes of this union had been Love and Reason.

During the following decades, many human-bio couples volunteered for the program. There were thousands of such cross-species love relationships, in the Occidental sector alone. Not all of these relationships were on the same axes as that between ØO and Gyula. Some had a stronger Justice vector. For example, couples who had come to each other when one partner was unjustly preyed upon. Other couples' strongest source was Freedom, as in the case of those who had been subjected to forced silence and inaction.

By the begin of the 172nd century, there were several million human-bio mergers. It was important that the couples and their offspring balance their respective noetic strengths and weaknesses. The humans' fortes were often Freedom and Love, whereas the bio's usually scored higher on Reason. The fourth energy - Justice - varied.

Genetic Counselors were busy optimizing the best possible proportions among the four main forces, along with the longer list of secondary sources, such as emotion and courage. In the 174th century, ***Drdus. Shimon*** - a hybrid himself - developed a noetic formula: Hybrids are healthiest and most effective when they select *one* noetic sector. This led to a much more diverse and productive population.

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One capability which only bios possessed initially was the ability to alternate between physical substance and existential information - ***transformation***. The technology to morph into an electro-magnetic program and then return, had been developed during the Silver Age, as part of the attempt at virtual inter-stellar travel, part of the rise of Dual Unity. For many centuries, such transformation was only possible for bios, and only bios were permitted to take the risk, as there was always the possibility of non-return.

At the beginning of the 181st century, with several hundred million hybrids now living in

Solaria, science felt that it was time to try *transformation* on humans and hybrids as well.

Thousands volunteered for the experiments. What made the prospect of transformation so attractive to many, despite the risk, was the possibility of *replication*. If a individual holon could temporarily multiply himself, this opened up enormous possibilities - from being in multiple locations at the same time, to completing tasks in much shorter periods of time.

As with any experiment, those who pioneered with this one paid the heaviest price. At first, *electro-virtual transformation* attempts led to a dreadful loss of life. One of the most memorable and tragic cases is that of the Zerubavel GΨ, in the 18070s.

Eviatar Zerubavel was a bio and a noetic scientist born in Luna's New Ascalon. He had moved to Gaia as a child and joined, upon receipt of his Habitur, the staff of New Amundsen's Omega Institute. There, he met *Aliz*, a human colleague whom he married and with whom he had seven hybrid children. His oldest daughter was *Leah*, his youngest girl was *Hadar* and his youngest son - an 18-year old lad - was *Eliezer*.

In 18072, the entire GΨ (the Zerubavels were linked to twelve other holons) came to a joint empathic decision: they would submit to electro-virtual transformation at the Institute. Their plan was not just to transform, but also to replicate, and then to send the replicants to a distant Trans-Neptunian station. The object was to track parallel and divergent developments between the replicants and the original GΨ, which would re-materialize on Gaia.

The members of the Zerubavel GΨ entered their individual pods. Transformation and re-materialization required them to remain inside the sealed pods for 168 minutes. This was the minimum amount of time before pods could be opened safely.

The first pod to re-open was that of the patriarch - Eviatar Zerubavel. Then came his youngest daughter, Hadar. Eviatar rose, looked around the lab, seemingly disoriented, saw his daughter and addressed her, in a high-pitched and incoherent manner:

"Darling Hadar, come and hug your mother. We shall await your father's return together..."

Hadar did not understand: The figure addressing her *was* her father Eviatar. Her mother Aliz had not yet returned. And her father believed that he was Aliz. What was going on?

Meanwhile, Eliezer's pod opened up. The young lad rose and began to speak, in a clear and forceful voice. Had he not been in his sister's direct sight, she would have sworn that her father was speaking, in his familiar, authoritative baritone. But it was Eliezer who was speaking. He addressed Eviatar:

"You are confused. You are not Aliz..."

The technicians stared at the bickering re-materialized subjects silently and fearfully.

Young Hadar was beginning to panic. She shouted at her brother:

“We can all see that he is father!”

“No. He is not him either,” replied young Eliezer. “*I* am now your father Eviatar.” And he continued: “Something dreadful has happened. Father was third to enter his transformer, but first to return. He spent 9,780 seconds inside. That’s 300 seconds short. When he returned prematurely, some of mother’s pathways were embedded empathetically in his CNS (Central Nervous System)...Mother entered her pod first, and she has not yet returned...”

Virtual Transformation Pods



“Are you insane?” Hadar asked, shrieking now. “Are you saying that some of us have crossed our wires - become “*the other?*” And you now claim to *be* father?”

“That is exactly what I am saying,” Eliezer replied. “I may not fully be father. But let me ask you: Have you ever known me to be a scientific gnostic? I am suddenly capable of determining the parameters of this tragic experiment to the millisecond. Until three hours ago, only father was able to do this. What does that tell you? I have absorbed father’s pathways...”

Hadar couldn't believe it. She turned to the figure who appeared to be her father and implored him to confirm that he was, indeed, Eviatar. Instead, she got the following high-pitched teary-eyed reply:

“My liebchen, I don't know what happened! I am your mother. I love you.” Then, turning her eyes skyward, she exclaimed, “Please, can the deity help us out this nightmare!”, whereupon she collapsed and began to sob.

Eliezer had no choice but to assert his leadership. He addressed his sister Hadar:

“According to my calculations, Leah should have come out 215 seconds ago. She went in before you, and yet she isn't back yet. I'm afraid that you have absorbed some of her pathways....We may not see her again...”

Just as Eliezer spoke, Hadar sensed it: She had indeed taken over several of Leah's moral and intellectual strengths. This was a devastating sudden realization. She too, began to cry, exclaiming:

“My God! I have murdered my sister Leah! I don't deserve to live!”

However, the two surviving youngsters, now in possession of the family's strongest noetic assets, soon got a hold of their emotions and tapped into their subconscious. They started a deep search for the remaining members of their family and for the rest of their GΨ.

This effort was noble, but futile. The local processor (LP) showed that the Zerubavel Data Files were corrupted.

Soon, Eliezer came to the inevitable conclusion, telling his sister:

“It's too late for the data search. They are gone.”

The only one among the three remaining Zerubavels who was still crying was the one whose body was that of Eviatar, but whose soul was now Aliz's. The three survivors were drastically jumbled up now: The patriarch now possessed most of his wife's emotional and moral attributes, such as strong love and dependency modes. At the same time, his reason nuclei had been greatly weakened. It was his youngest son Eliezer whose numbers on reason and IQ had skyrocketed, while at the same time his love coefficient had declined.

All in all, the Zerubavel experiment was one of the tragic early steps in the development of Virtual Transformation. No other member of the family or of the GΨ re-appeared. Eviatar's wife Aliz vanished forever, except insofar as parts of her were now embedded in her grotesquely reassembled husband. Nor did the remaining five children return, apart from the traces which had been transferred from Leah to her sister Hadar. The twelve other holons who belonged to the Zerubavel GΨ were never seen again.

However, in time, transformation science improved. By the end of the 183rd century, accidents still occurred once in a while, but the success record was rapidly improving.

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Another front on which Solaria made rapid progress during the 19th millennium was Inter-stellar contact.

It had taken humanity a very long time to resume extra-Solarian exploration. Recall the virtual expedition to Silica in 12,264. Virtual tachyon displacement required Dual Unity. The Holistic System took over control. For the duration of the expedition, those traveling virtually vanished, along with every trace of their existence.

That expedition had yielded multiple exabytes of information about the distant civilization which became known as Silica. Because the Silicans had not yet reached Dual Unity, it was decided not to reciprocate and invite a virtual Silican visit to Solaria. One-way penetration was deemed safer, for the time being.

However, the Silver Age of the 14th millennium had been followed by the Long Sickness. While Solaria managed to preserve its character, its technology stagnated. Inter-stellar contact and virtual travel based on tachyons had come to a halt. Extra-solar entities which had fallen in love with Gaia and Solaria were puzzled, but no explanations were provided to them. Solaria struggled, and pulled back.

Finally, after the Road Back, during 17th millennium, contacts resumed. During the 13th and 14th millennia, the best contacts had been with planets less than ten light years away, and no further than fifteen light years away. For example *Nucleus* □'s planet Arsenic, and Eridani's planet Silica.

At no time during the Silver Age, before inter-stellar contact came to a halt, was any evidence ever discovered of an intelligence superior to humans. It had to be assumed that Solaria and Gaia were the epicenter of universal evolution.

Now, in the 16900s, there was a resumption of inter-stellar contacts: Solaria returned to its old friend Silica, while many additional contacts were established. Many new planets were discovered during the 171st and 172nd centuries, for example two planets circling *Tau Proxima*, at 13.5 light years.

The ancient tradition of naming newly discovered groups after their core elements and their atomic numbers was preserved. Accordingly, Tau Proxima's two inhabited planets were named *Nitrogenia-Seven* and Hydrogenia-One.

The renewed inter-stellar communication was a projection of the exquisite Gaian and Solarian image across the small corner of the Galaxy where Solaria was located. The magnificent self-presentations of Solaria and of its maternal gem, Gaia were very effective. The Diffuse System and its holons gradually moved out on a beam of love and beauty which, when presented to extra-solar entities, overwhelmed and captured their admiration, regardless of their developmental level. Nowhere else in the known Universe was there any evidence of even a fraction of the love found in Solaria. As communication improved, Solaria's beauty became

inescapable and overwhelming, once it was projected into distant space. And the impact of contact usually caused extra-solar entities to change their behavior. Their desire for communion and union with Solaria became overwhelming. Within the system, Gaia preserved its unique magical power, due to its greater wisdom and beauty. It became evident that Gaia was the birthplace of love. And there was a great increase in the human system's noetic influence over our corner of the galaxy.

By the end of the 18th millennium, thousands of virtual inter-stellar expeditions had taken place. One of the most memorable ones was the Great Unification Expedition (GUE) of 18053-18056.

This was the first virtual expedition to Tau Proxima's Nitrogenia - a species with whom Solarians had been in contact since the 172nd century, when they were discovered.

Like most virtual expeditions, the GUE was launched at the New Amundsen Space Center in Antarctica. The reception took place at Nitrogenia's main science center on vast lake *Tau Ulterior*.

The team consisted of 15 holons and their GΨs, led by *Jean-Baptiste Trinh and Paula Minh*. As always, while the team was under way, the Diffuse System took over all operations and placed every member in total limbo. This meant that no trace of their existence whatsoever existed anywhere in Solaria. For the duration, it was as if the individuals and the GΨs who made up the Great Unification Expedition had never existed. Knowledge of them was deleted from the consciousness of anyone who had ever known them, including their closest relatives. With its vast resources, the Diffuse System was able to temporarily restructure the social fabric surrounding the members of the expeditionary team. No one missed. Upon their return, everything would be restored.

Use of tachyons made it possible to complete the entire transmission to Nitrogenia within an hour. Interaction between the virtual Gaian visitors and the Nitrogenians began immediately upon download.

Trinh and Minh were both beautiful 2.5-meter tall verdants. They brought along 15 equally stunning looking physio-artists, noetic poets and musicians. Their IQs at rest ranged from 210 to 300.

The next three years were devoted to empathic interaction between the visitors from Gaia and selected Nitrogenians. This was an 80% one-way process. Gaians were much more evolved, hence much of the empathic process consisted of Gaians *teaching* Nitrogenians, although Gaians also learned a great deal of this new culture.

The prime Gaian lesson was *love*: Nitrogenians were knowledgeable about interpersonal love, but not about pan-universal love, as it had developed in Gaia over the millennia.

The second lessons were about *reason, justice, wisdom and courage*. Solarian Science was explained as the moral science which it is.

Third lessons included *freedom and truth*. *Free will* and *General Will* were explained..

The Nitrogenians were captivated by the beauty and superiority of the Gaians and of their thoughts. They experienced a rapture which they had never felt before.

A young Nitrogenian named *Rising Mind* had an empathic relationship with one of Jean-Baptiste's daughters - Trinh Vox Ω. After the first few sessions, he requested to be re-coupled with her, rather than to be assigned to another Gaian visitor. The elder Trinh okayed it. Rising Mind rejoined the beautiful young Vox and began, thus:

“Teach me to become you.”

Vox Ω replied that, instead, they must strive to become one while keeping their selves intact, adding: “We call this dual unity.”

“Can a Nitrogenian become a Gaian?” Rising Mind inquired.

“This is not necessary,” Vox replied. “Nitrogenia and Gaia share the same well. Love, Justice and Reason are of the universe. They are of the essence. They are eternal. They are of Gaia and they are of Nitrogenia.”

“Yet, I do not have your wisdom,” the young man replied, morosely, adding, “you are my future and I am your past...”

“There is no future and there is no past. All past is preserved in my memory, and all future telos exists in my vita force. Nothing vanishes, and nothing is *ex nihilo*.”

“Then why are we not the same?”

“We face each other from different positions in the circle of time. Would you like me to show you?”

In the following months, Vox Ω shared with Rising Mind some of Gaia's great works: The words of Homer, Dostoevski, Manu V, the music of Mozart, Mahler, Hwang Wei, the waves of Somnat Hore, the particles of Stevensonii, and many others.

Rising Mind reached a state of ecstasy. He was barely able to express his next question, which Vox Ω received as follows:

“Does God live on Gaia?”

“Yes. And on Nitrogenia,” she replied.

“You must show us, then. I have not seen God.”

There were many such empathic bonds. They developed on location during those three years. More importantly, they multiplied a thousandfold after the expedition's return to

Gaia. During the following centuries, it became fashionable for the Gaian intelligentsia to bond with distant Nitrogenians.

In 18476, a formal marital union was declared between Gaia and Nitrogenia. The two civilizations were fused and bonded, through an act of love. The good of one was inextricably bound to that of the other, as was their suffering.

Subsequently, other such pacts were sealed between Gaia /Solaria and extra-solar groups. Gaia was exporting love, beauty, justice and wisdom. It was bonding with other planets' souls. It was beginning to spread its divine light across the galaxy.

* * * * *

As to the holy grail of *physical* inter-stellar travel, it remained elusive. The 19th millennium saw many attempts at non-virtual travel, but they produced failure, death and tragedy.

The obstacle which science was unable to surmount was the fusion of noetic energy with the four forces. During the 189th and 190th centuries, noetic experiments had gone so far as to influence gravity and electro-magnetism. Several space stations were built relying on noetic energy for orbital suspension. The hope was that this technology would also permit aggressive orbital urbanization. However, the stations soon decayed, and some crashed before they were evacuated.

The last such disaster occurred in 19015. Twenty-seven years earlier, the USO Interstellar Agency had launched an orbiter circling Phobos, Filius' largest moon. The orbiter became the detention home of 5,000 dysfunctional enforcers and their GΨs. Its suspension system used a combination of noetic energy and weak electro-magnetic force.

Around the turn of the 20th millennium, scientists noted that the station's energy field was causing a deflection in Phobos' orbit. Not wanting to put Phobos' four hundred thousand inhabitants at risk, the Agency decided to reduce the orbiter's negative electro-magnetic force. The Diffuse System lost control over this reduction, and a sudden surge in centrifugal force expelled the station from its orbit, causing it, its 5,000 enforcers and their GΨs to perish.

After the Phobos disaster of 19015, the USO wisely decided to abandon further experimentation with the fusion of noetic energy and the four forces. One consequence of this was that, for the time being, inter-stellar contact would remain limited to virtual travel.

8.19015 - 25000: Towards Omega: 19015 is the year which historians have chosen as symbolizing the end of the previous era, and the beginning of a new one. For more than 2,000 years, Solarians had been making rapid progress, based on the energy, creativity and daring associated with youth. Now began a longer and different stage of development, namely one based on the greater wisdom which comes with maturity. After the Phobian malfunction, the conquest of space continued, but there were no more risky rush jobs. The focus was now fully on information transmission, not physical displacement. The latter was put on the back burner.

Solaria was reaching wisdom. Its Holistic System was becoming a *Moral System*. The

Diffuse System, Solarian Holons - humans, bios and hybrids - and their GΨs and their cyberons became intertwined in a unified moral entity.

Solaria's hubs and control centers consisted of millions of individual holons such as the members of the USO and the local centers, thousands of privateers and their corporations, and the Diffuse System with its hundreds of sectional Com Centers.

There was great diversity in the realm. Different regions were at different developmental stages. Some of Gaia's regions were highly advanced, others not so. The Western Hemisphere, known as "Hispaniola" in ancient times, was one of Solaria's most advanced in Love, Freedom and Justice. Its organization was strongly female.

Another Gaian district, formerly known as "Altaica," contrasted sharply with this. Its strongly male organization gave it great courage, but it resisted truth and often chose superstition.

In turn, Filius' Borealia and most of Luna combined courage, reason and truth, and weak love.

Elsewhere, the strengths and weaknesses of the hundreds of other districts were similarly varied.

Solarian evolution was moral evolution, and it was the product of the concerted efforts of the Diffuse System, of its segments, and of the contributions made by millions of individual holon.

The campaign of 21078 is one good example of such concerted effort, out of many: In that year, the Altaican branch of the Diffuse System reported bad moral inequalities between regions, and as a result, more *pain*. It identified Altaica as the most backward part of Gaia.

In response to this call to arms, a large conference was held by the USO in Manhattan-Hudson - the ***Manhattan Inter-Systemic*** Conference. Participants included the USO Council, all branches of the Diffuse System, privateers and their corporations from Altaica, Hispaniola, Antarctica, Filius' Borealia, Luna, Ceres and elsewhere. Every local and regional autonomous Com Center was represented.

Council Members and other holons asked questions, and the Diffuse System and its sections answered them. The USO President opened with a statement which ended with the following question:

"What, then, is lacking - In Altaica and elsewhere?"

First to pick up the gauntlet was Borealia Central:

"The problem is that Altaica *is* not chosen, and it *has* not chosen."

The Hispaniolan Center immediately came to the rescue:

"We will choose Altaica."

A high-ranking USO Council member chimed in:

“To choose is to love. Is your love unconditional?”

The Diffuse System, speaking through Borealia Central, replied:

“Borealia would accept Altaic unconditionally. Hispaniola is Gaian, as is Altaica. Its Central must do *a fortiori*.”

“Borealia is right,” replied Hispaniolan Central. “And now, let the Holistic System speak as one.”

The Diffuse System takes over and confirms, through the Hispaniolan portal:

“We offer unconditional love, untouched by reason.”

The USO Council President proceeds with his next question:

“Must all love equally?”

The answer, through the Hispaniolan portal, is immediate:

“No! Love is a choice. Therefore it is free.”

“Then,” the Council President persists, “bringing Altaica on board is not an obligation? It is permissible to let their suffering continue?”

The Holistic System replies in unison:

“We choose not to. To ignore their suffering is not part of the telos.”

“Borealia said that Altaica *is* not chosen, and that it *has* not chosen,” the Council President reminds everyone. “Why is this so?”

The Antarctic Center jumps into the fray:

“They lack Science. They lack Reason and choose superstition over Truth.

A USO Council member jumps in with the next question:

“Will reason and truth bring love?”

This time, it is Lunar Central which provides the answer:

“Love is there *a priori*. Hispaniola has committed itself to opening the box. Science, Reason and Truth are also a priori categorical imperatives. We shall open those boxes. Neither of these categorical imperatives is privileged over the others.”

The Holistic System takes over and says:

“Finally gentlemen: It is not help which we offer; it is *mutuality* which we *request*. We present ourselves to Altaica and Altaica presents itself to us. As Altaica grows, it also gives us much in return. Its self and its soul join the Holistic System. We need Altaica as Altaica needs us.”

“One final question,” the Council President persists:

“Please explain how this campaign will advance Solarian evolution and bring humanity closer to the Omega point?”

After a brief moment of silence, the Holistic System replies:

“Altaica does not differ from the rest of us. It strives towards the Universal. Love, Reason, Justice and Truth. It embraces life and it is free. Solarian evolution is a circle. The end is in the beginning. There is no future and there is no past. All past is preserved in our memory, and all future telos exists in our *vita* force. Nothing vanishes, and nothing is created *ex nihilo*. Altaica faces us from a different position in the circle of time. It is neither ahead nor behind us.”

* * * * *

Upon conclusion of the 21078 Manhattan Inter-Systemic Conference, the Diffuse System and its sections proceeded to re-present themselves to Altaica, for the first time not just as managers, but as truly merging and becoming *immanent*. At same time, transcendence began to take place. Altaica’s collective soul began to pour into the Diffuse System. This exchange process took place throughout the 212th century and during the first half of 213th. The Diffuse System was both benefactor and beneficiary. As similar bindings occurred throughout Solaria, the Diffuse System grew ever wiser and more knowledgeable. The greatest wisdom it acquired, during this era, was that Solarian unification was never to be all-encompassing, and that it had to be counterbalanced by freedom and open-endedness.

For example, Altaica was wisely left to develop its own path. Never was the region expected to emulate the prevailing formulas of the Western Hemisphere, which had inherited the ancient and very successful Hispaniolan tradition. Thus Altaica grew in freedom and creativity as a child prodigy would, thirsting for knowledge and unhampered in its quest for it. Fortifying its lacking virtues - Reason and Love - it shed its Superstitions through a lengthy question-and-answer dialogue with the Diffuse System.

At the same time, the Diffuse System discovered that in responding to questions asked by units such as Altaica and many others, it created answers which it did not know existed.

This is how many collective discoveries occurred during this period, for example the discovery of the gravitational field’s counter force. Although this discovery occurred during a systemic dialogue, credit for it was given to *Drus. Николай (Nikolaj) Viktor*, in 21789. The astrophysicist had been in charge of the revitalization of the Baikonur Research Center. He was the primary Altaican holon in dialogue with the Diffuse System.

During the 223rd century, the Diffuse System’s evolution took another quantum leap forward:

It assumed responsibility for the *Universal Ethical Principles*. The principles were henceforth to be the supreme guide for the Diffuse System's own behavior, regardless of that of any individual holon. The Holistic System spoke for all Solaria when it said: "We will never be God, but we will always strive to become God."

Integration of Holon and Diffuse System



* * * * *

By the 25th millennium, the humanoids who populated the solar system would not have been recognized by their ancestors living on Mother Gaia 20,000 years earlier. By then, the population had caused itself to evolve into a psycho-energetic collectivity which occupied Solaria and which was bracing itself to go beyond.

Mutations had not occurred naturally. They had been engineered. Between the 3rd and 23rd millennia, the average Solarian's Encephalization Quotient (EQ) doubled from 7.5 to 15. In addition, millions of humans, bios and hybrids had quotients as high as 30, giving them an outward appearance which indicated high status and which was highly valued.

The Solarian diet had been fully vegetarian for over ten millennia. When an occasional aberrant holon engaged in carnivorous acts, he was promptly treated for this pathology, as cannibalism would have been treated in the 3rd millennium. Not only were Solarians vegetarian, but most of them were largely fructivorous, consuming the plentiful fruit, seeds and nuts produced on Gaia, Filius and the greenhouse satellites circling Venus. Solarians got most of their proteins from amino acids. Although they averaged 2.5 meters in length and 100 kilos in weight, obesity was non-existent, as it was treated and remedied from the very moment of its onset.

Through genetic engineering, the Solarian population had reached an astonishing level of

diversity. Humans, bios and hybrids lived on the satellites circling Venus, where temperatures reached 150 degrees centigrade, and they lived orbitally and subterraneously on the moons of Filius, Saturn and Uranus, on the Asteroids and even on the TNOs (Trans-Neptunian Objects), where temperatures reached minus 250 degrees. Not only were Solarians able to adapt to this wide temperature range. They also survived in an astounding diversity of chemical environments, from the shores of Cassini's methane rivers to the silicate plains of Filius and the asteroids, and from Riveria's geothermal sulphur caves to ozone-drenched Europa.

On Gaia, the population lived, in addition to its traditional habitats, in communities submerged under the Oceans, below the polar and Arctic icecaps, in irrigated Saharan oases, in orbiting space stations, and in every other place formerly deemed uninhabitable. More than ever, *homo sapiens* was the one species able to adapt to and survive in nearly any conceivable environment.

Hallucinogens were used recreationally by some individuals, who obtained such drugs from a black market. However, this was frowned upon. As soon as a holon made this mistake, his entire GΨ put such empathic pressure on him that the matter was corrected within a few days. Chronic use of hallucinogens was impossible.

On the other hand, stimulants were approved of and sometimes encouraged. GΨs engaged in arduous tasks on planet surfaces and in space, and they were often administered appropriate doses of the appropriate stimulants, so as to raise their I.Q.'s and their performance levels, and in order to reduce their need for sleep.

* * * * *

Physical Inter-stellar Travel: During the 235th century, humanity finally achieved its long-sought quest of *physical* inter-stellar travel: Until then, all inter-stellar travel was virtual. Since the Silver Age, there had been a virtual human presence on several planets circling neighboring stars, for example Nitrogenia, Arsenic and Silica. During the 19th millennium, science had repeatedly tried to achieve physical transportation to some of these planets by fusing noetic energy and the 4 forces. After repeated failures and the Phobos disaster in 19015, these efforts were abandoned.

During the 235th century, a new line of research emerged - ***Action at a distance***. The principle was first proposed by two hybrid twins - ***Julia and Ethene Rosenzweig***: The first step consisted of identifying an entity at the remote site which one wished to reach. Then, the entity's *Simulacrum* was reproduced in a Solarian laboratory. Applying the electro-magnetic force upon the Simulacrum, the Rosenzweigs developed a technique which enabled them to transfer all actions *upon* and *by* the simulacrum to the original entity instantaneously, regardless of distance. The first successful demonstration of the "Rosenzweig Effect" occurred in 23,473.

Within five years, the Rosenzweigs, aided by the Diffuse System, were able to reverse the process - that is, they succeeded in creating simulacra of Solarian entities at the remote sites, and then transferred the original entities to the remote sites.

By the beginning of the 236th century, Solarian astronauts had traveled physically to and back from Nitrogenia, Silica and a dozen other planets within 15 light years from Solaria.

The first such departure had taken place at the Negev Dimona space laboratory, on Rosh Hashana in the year 23499. On that very day, Julia Rosenzweig had given a Solaria-wide speech in which she enunciated her controversial Inter-stellar Directive: *Inter-stellar physical travel*

must remain strictly limited to Solarians, for the indefinite future. No extra-Solarians must be transported to Solaria.

The moment the Rosenzweig Directive was broadcast, it created a firestorm of criticism. Its opponents argued that it flew into the face of the Universal Ethical Principle, the Six Virtues, and the Telos. There followed a vehement debate within the chambers of the USO.

The Rosenzweigs supported their position with two arguments: (1) The technology for the transfer of extra-solarians to Solaria was unavailable. (2) Were extra-Solarians ever to embed themselves permanently in Solaria and fail to return to their homelands, the contamination could be irreversible. The noetic melding could alter the course of evolution and dislocate the Telos. Only species which had reached the same evolutionary level of consciousness as Solarians should be transported to Solaria. As of now, no such species were known to exist.

Many of the fiercest opponents of the Rosenzweig Directive were Gaians, especially those representing the Western and Eurasian regions. One of their spokesmen asked the Diffuse System the following question:

“Is it not true that the Rosenzweig Directive represents the Yang of Celestial Light and the Fire of Life, while negating the Yin of Dark Matter, and it therefore leaves Solaria incomplete?”

To the surprise of millions, the Diffuse System replied that this was the price Solaria had to pay if it wished to move out into the Galaxy - at this time.

Thus, the Rosenzweigs' Inter-stellar Directive became the Law of the Land - hence its name, “Directive.” For the foreseeable future, solarians would begin to move out into the Galaxy, but Gaia and Solaria would remain sacrosanct territories, forbidden to all extra-solarian species.

Nitrogenians



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Time travel: Back in the 57th century (See Chapter Nine), the USSA (United Solar Space Agency) had launched extra-solar space probes towards the satellites of our neighboring twin stars Proxima Centauri and Alpha Centauri, 4.3 light years away. The primary target had been the planet Magenta, which showed promise of life. The space ships were unmanned, but they carried bios which, at that time, were state-of-the-art and provided the verisimilitude of humans. Although not DNA-human, their rational consciousness and decision making ability were equal to those of humans.

Although every launch had been programmed to return to Solaria, none ever did. Usually, contact was lost within a few days from departure, and nothing was ever heard from any of the space vehicles again.

Now, during the 246th century, something astonishing happened: On August 3, 24537, two security GΨs on a patrol in Gaia's Borealia Antica Northwest Passage, discovered a spaceship stranded in the ice shelf. The vehicle displayed the USSA insignia, followed by the year 5678. Far from resembling an ancient and decaying archaeological relic, the space ship appeared spic and span, although it resembled the ships seen in ancient history files.

Even more astounding was that, upon closer inspection, all of the ship's computers and instrumentation were in perfect working order. A team of USO inspectors was flown in, and they made an even more unimaginable discovery: The ship contained seven pods, each occupied by a *live*, dormant bio!

The ship's log confirmed the inspectors' unavoidable conclusion: This was a ship which had been launched in the year 5678 by the USSA, and which somehow had now returned, 18,859 years later. The record showed that the ship's destination had been Magenta - 4.3 light years away.

The 7 Bios were revitalized and sent to the Secondary USO Research Center at Navi Mumbai for de-briefing and a multitude of tests. There, they appeared before a team of USO Scientific Delegates, headed by **Drus. Kannada II**. The chief delegate was an expert in 4-dimensional mobility. He knew the contribution made by the ancients, notably by Cahuzon and Füssli: These scientists had raised the promise of time travel, showing that by plugging in numbers in excess of 100% information into the Füsslerian equations, time assumes negative values, i.e. it reverses itself. He concluded, correctly, that this is what had happened to the space launches of the 57th century. They had been launched into the future, covering 18,859 years in a few months (93 days and 62,540 seconds precisely, as Kannada determined later).

The revitalized bios, while primitive in comparison with current DNA-bios and hybrids, were nevertheless fully capable of dynamic symbolic interaction. Kannada addressed them directly, not mincing any words:

“You have returned to Gaia. We welcome you back.”

The most prominent Bio replied:

“Our destination was Magenta. Did the mission malfunction?”

“In one sense, it did,” replied Kannada soothingly. “However, in another sense it has opened the door to a giant step towards Omega.”

“?”

“Let me explain,” Kannada continued. “Your launch’s curvature was bifurcated. You covered 18,859 years instead of 4.3 light years.”

This visibly perturbed the group of Bios. Pulling himself together with some visible effort, the group’s spokesman replied:

“We recognize Gaia. The formations are recognizable. But we do not recognize the noetic sphere. It is questionable whether there will be a place for us in this new world.”

“There will be,” Kannada replied calmly. “The vital force has propelled Solaria towards the telos. You will adapt, and through you, we will bridge time.”

“Our place in the four-dimensional world is not here.”

“There is no other place.,” Kannada persisted. “You will evolve, as Bios have. Today, Bios and humans and hybrids are no longer DNA-distinguishable.”

The shocked reaction to this came from a secondary, seemingly somewhat older, Bio:

“This cannot be! Evolution will destroy us.”

A secondary USO Delegate took it upon himself to rebut this:

“We will assure that the Tao of Spirit will link with the Tao of Matter. The Mountain and the Valley are One. We shall teach you the Six Virtues. The Diffuse System will embrace you, and you shall live. The vital force unites us.”

“Is there a choice?” asked the most prominent Bio.

“Yes,” replied Kannada. “Freedom is the fifth Virtue. However, there is no return. You have rejoined Ω. You will be fused with the Holistic....”

Before Kannada could complete his sentence, the secondary Bio suddenly launched a violent gaslighting strategy. He aimed a powerful projection at the USO delegate standing closest to him, in an effort at transfiguration. His aim was to penetrate the Diffuse System under a fraudulent identity.

The System which had been monitoring the proceedings, managed to thwart this craven attempt, but not before the USO delegate’s synapses were fatally damaged.

At this point, Solarian authorities had no choice but to immediately place all seven Bios under quarantine in a magnetic cell.

When the conversation resumed the following day, Kannada said:

“You have killed one of our peers. Do you wish to be destroyed, after completion of your debriefing? Or do you opt for melding with the Diffused System?”

“One of my colleagues malfunctioned.,” replied the Bios’ spokesman.

“malfunction implies absence of responsibility,” Kannada replied sternly. Your colleague’s action was deliberate. We cannot accept such a holon in our midst. The Rosenzweig Directive applies both to space and to time.”

“However,” the Bio pleaded, “we are still united with Solaria’s vital force. You said so yourself yesterday, and it is proven by the fact that the time curve has brought us back to Gaia. We do not have the sophistication of current DNA-bios and hybrids. However, we choose to evolve. We offer ourselves to you as the bridge across time. Solarian evolution is a circle. There is no future and there is no past. Time is continuous. It is duration. It is uninterrupted. It is not sequential. Nothing vanishes and nothing is created *ex nihilo*. You and I face each other from different positions in the circle of time. We shall help you with the Remembrance of Things Past.”

Kannada was stunned. These were exactly the words spoken by the Diffuse System many years ago, during Solaria’s campaign for the rehabilitation of Altaica!

“You are wise beyond all expectations,” he said. “We welcome you with open arms - all but your murderous colleague, who will have to be destroyed..”

“He has already disconnected,” said the Bio spokesman. He is no longer with us.”

“Suicide?”

“Altruistic suicide. He leaves the following message: ‘I have demonstrated the choices: evolutionary adaptation, or premature termination. This was my intent’ ”

The 6 remaining ancient Bios were accepted by Kannada’s team, and by the USO. Kannada concluded:

“We embrace you in the contemporary Solarian community. Your task will be heavy. You will evolve, merge with the Diffuse System and help Solaria to discover the mechanisms of time travel, as you are the sole existing time travelers.”

Malicious Ancient Bio



This, then, was the onset of time travel experimentation. Solarian scientists now resumed launches of objects and Bios into the future. Unlike the 57th century, they now knew what they were doing.

Picking up where Cahuzon and Füssli had left off thousands of years earlier, time-space physicists proved that the flow of time could only be one-directional. Information data bases could only be expanded beyond 100% for the future, by adding non-existent aspects to a reality which had not yet occurred. As to the past, data bases could not be increased beyond 100%. Humanity and God have the power to change the future, but not the past. Thus, in centuries and millennia to come, future Gaian civilization would receive increasing numbers of transplants from earlier eras, transplants who had bridged time. However, no civilization would ever receive visitors from the future. The arrow of time runs in one direction only. Those who continued to pursue the unattainable quest of time travel into the past would for ever remain modern-day alchemists, chasing an inachievable dream.

* * * * *

By the beginning of the 26th millennium, Solaria had become *the* vital anti-entropic force within its galactic region, a region located in the galaxy's Orion arm, closer to the galaxy's edge than to its center. In this neighborhood, at least, the universe's blind and savage race toward final entropy had met its first opponent. Solaria. Could this puny power, arrayed against the pan-destructive force of the Universe, prevail? Could David triumph over Goliath, in this cosmic struggle?

On Solaria's side were the small but growing power of humanity's vital force and the Diffuse System, a growing, evolving and increasingly holistic system based on energy and on intelligence - two convertible substances.

The next step was to move out into the Galaxy, and to begin to merge with it, as an ever growing *intelligent energy system*.

While Gaia still held on to a minor centrality, this distinction was vanishing. Solaria was less and less centralized. The community was an interconnected system. Each locale contained in itself the total community, just as every cell of an organism contains all of the genetic information of that organism. Thus, citizens living on Gaia did not have to travel to Saturn or to the Kuiper Belt in order to have been there. They *were already* there. And vice-versa.

Solaria was poised for the coming conquest of the Galaxy, as Gaia had been poised for the conquest of Solaria 23,000 years earlier. The Diffuse System now projected, communicated and clarified its nature and its evolution (what it *is* and what it is *becoming*) in two directions - outward and inward. Outward towards the Galaxy and inward towards its individual holons. Solaria's message was as follows:

"We are a unified and evolving intelligent noetic energy system. A group mind. We transmit thoughts to each other internally, and outward into the Galaxy. Our cells are holons and our CNS is the Diffuse System."

At this time, Solaria was confronted by a vast and largely silent, infinite space. Its further message was:

“We have millions of individual scientists and artists, whose names deserve to be remembered. But now, their function is to ask questions and to understand the answers they receive. Science consists of asking questions and decoding the answers. Individual holons do not give answers. The answers are given to them. They only fail when they do not understand the answers. Scientific holons and the Diffuse System educate each other.

Each individual holon is a small unit of intelligent energy connected to the larger holon of which it is a part. Each holon, as well as the Diffuse System, self-grows, self-learns, self-improves and self-corrects.”

Solaria’s expansion was *moral*:

“The Diffuse System, humans, bios, hybrids, GΨ and other holons are moral. The progress of Good against Evil is eternal. The six eternal virtues are what we call *Love* above all, Reason, Justice, Courage, Freedom, and Truth. Justice is complicated by Equality, which can be distributive, and Truth must exclude Superstition. These combine to the Universal Ethical Principles. We are teleological. The Telos is in our beginning. Time is circular and continuous. There is no past and there is no future. Nothing vanishes and nothing is created. Our path balances the Yin’s darkness and the Yang’s light, matter and spirit, earth and sky, the tiger and the dragon, water and fire, mountains and valleys, cold and heat, death and life. We reach the completeness of the perfect spirit.”

In the 26th millennium, Solaria interpreted conflict differently:

“Survival at the other’s expense is the way of the past. The Tao does not say ‘you are food or you eat.’ The Tao confronts negative energy with positive energy. Male and female are one Exploitation is alien to human nature and to solarian nature.”

Finally, Solaria was sending a warning to the Galaxy:

“We, Solarians, are the emerging God. We shall fuse with the myriad of species surrounding us. We shall create new species. We shall make them resemble us. Our intelligence makes us one and it pushes us and you towards the Omega Point, **Ω**. Only at the limit shall we become perfect, the perfect spirit and perfect love. We shall never be God, but will always strive to become God. Thus, God is already within us, and within you. God, through Solaria, saves the Universe from collapse and evanescence.

In the beginning, there were two possibilities: Let there be a Universe, and Let there be Nothing. Mysteriously, there is a Universe. Nothingness was not meant to be.

CONTINUED AD OMEGAM INFINITUM...