

Your Money

Whence it came, Why it is changing, Where it is leading

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***These bullets are not part of the book
they are “marketing points” that help positioning the book***

The following bullets are reality-checks extracted from *The Future of Money*, illustrating the dramatic changes we face in the near future.

- Your money's value is determined by a global casino of unprecedented proportions: \$2 trillion are traded *per day* in foreign exchange markets, 100 times more than the trading volume of all the stockmarkets of the world combined. Only 2% of these foreign exchange transactions relate to the “real” economy reflecting movements of real goods and services in the world, and 98% are purely speculative. This global casino is triggering the foreign exchange crises which shook Mexico in 1994-5, Asia in 1997 and Russia in 1998. These emergencies are the dislocation symptoms of the old Industrial Age money system. Unless some precautions are taken soon, there is at least a 50-50 chance that the next five to ten years will see a global money meltdown, the only plausible way for a global depression.
- Exorbitant compensations are paid to the very few at the top: it started with movie stars and sports heroes, and has now spread to top lawyers, traders, doctors, and business leaders. In the 1960's CEO's salaries were only thirty times greater than those of the average worker, compared with two hundred times today. Is this the dawn of a society where “Winner-takes-all” or a short-term last gasp of the transition out of the Industrial Age?
- The value of barter transactions – exchanges which do not use any money as medium of exchange - totaled almost \$6.5 billion in 1994 in the US and Canada, and is increasing three times faster than normal exchanges. The magazine “Barter News” covers the industry's development and now has 30,000 subscribers. It estimates the total barter worldwide at \$650 billion in 1997, and growing at an annual rate of 15%.
- All of the above is part of an irreversible process of change in our money system and our societies. We are now in a transition period, an interval of great risk but also of great opportunity. The risks are not only financial, some of the emerging money technologies could create a society more repressive than anyone of us thought possible. More importantly major opportunities are also becoming available: now more than ever it has become possible to address some of the most critical issues of our times, such as enabling more meaningful work, fostering cooperation and community, even realigning long-term sustainability with financial interests. None of this is theory, real-life implementations have pragmatically demonstrated such results. Combining these innovations can make available a world of Sustainable Abundance within one generation.

- Specifically in Europe, the traditional ways to handle unemployment are increasingly failing. In areas with high unemployment, people have already demonstrated that living conditions can be significantly improved by creating their own complementary currencies instead of just relying on welfare. Surprisingly, it is in fact not the first time that such solutions have been successfully implemented in the Modern world. During the 1930's many thousands of such initiatives were operational in the US, Canada, Western Europe and other areas affected by the Depression. Complementary currencies could become a key tool to buffer a region from the shocks caused by failures and crises in the official money system. Finally, this approach is a win/win for both locally owned businesses and society at large.
- The degradation of the environment due to short-term financial priorities can similarly be addressed with pragmatic money innovations. Short-term thinking is shown not to be due to human nature, but to the prevailing money system. It is also possible to reverse this process, by using a currency designed specifically for multinational trade and contracts which would make long-term thinking a spontaneous process, focusing the attention on long-term sustainable solutions without the need for regulations or taxation. Historical precedents have proven such results, some of them lasting over several centuries.

*For your children;
and the children's children.
And the trees..*

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Introduction

The last beings to comprehend the nature of water are fish. Similarly this is true of people and the nature of money. We allocate a great proportion of our physical, emotional, and mental energy to getting, keeping, and spending money--but how many of us really know what money is or where it comes from?

Three Promises

As you start reading this book, I make three promises:

1. *You will gain understanding of the real workings of the money world, expressed in layperson's language.* On some level, this may be similar to those first conversations you had as a kid about the real story of sex. The real story of money is just as compelling--and even more obscured--than the topic of sex was once upon a time. Western society used to have three main taboos: sex, death and money. The sexual revolution of the 1960s took care of the first one, not to speak of periodic media frenzies around some sex scandal. The AIDS epidemic of the 1980s has forced us to talk about death combined with sex, even with our youngsters. Monetary issues promise to force us to face the last taboo--money--during the first decade of the Millennium.

This book is a discovery guide to the current *money system* -- the way money is created and managed in our society. It also provides a road map for the monetary journey out of a decaying Industrial Age to an Information Age, where greater opportunities become available. This will be an informative journey, revealing both the positive and negative implications of today's money system. It is peppered with humorous and surprising anecdotes on how the system came to be what it is today.

2. *You will know enough to find your own answers to questions such as:*
 - Why is meaningful work so scarce?
 - Why have we less and less time, even with repeated promises that technology and productivity will give birth to a leisure society?
 - Why is decent healthcare or a good education for our children becoming less affordable?

- Why is it that the better off we are financially, the more starved we are for community?
 - Why is long-term sustainability not a compelling concern in our society?
 - Why is money becoming an obsession for so many?
 - Why is the global monetary system in growing turmoil, and what does this mean for you?
3. *You will discover that another way is now possible, and that you can participate in making it happen.* You will learn about new possibilities to create and support a world that works for everyone, where the cooperative and competitive ethos blend in harmonious synergy. I will call this “Sustainable Abundance”. Sustainable Abundance is not merely a theoretical possibility, but a concrete reality. In the midst of incredible change and uncertainty (including roller coaster stock markets, monetary meltdowns on three continents), there is also an unmistakable, quiet monetary revolution taking place. This book chronicles the birth of over 1,900 complementary currencies flowering independently of national banks in over a dozen countries. You will read about how new types of currencies have already proven effective at bolstering employment, community and sustainability. Operating as *complements* to traditional national money, these emerging new currencies may well be the solution for these apparently intractable problems. The appearance of these new money systems comes as a consequence of a broad shift in societal values, particularly those values previously tagged as “feminine” concerns. The search for a cooperative ethos -- one based on collaboration among people, community building, and a sustainable relationship with the environment -- is increasingly perceived by men and women alike as critically relevant for our future. Complementary currencies offer a key to balancing these emerging cooperative priorities with the competitive values, that, until recently, have dominated the economic world. You will see that these new currencies enable transactions to occur that otherwise would not take place, thereby creating *new wealth, both economic and social*. It is the combination of the traditional national currencies and the complementary currencies that gives birth to what will be called the Integral Economy, the master key towards Sustainable Abundance. If you so choose, you can become part of this new monetary future, and start creating Sustainable Abundance, right here, right now.

Underlying Viewpoint

This is not a book on economics or economic theory. Rather, it addresses real-life issues by

combining money innovations, each of which have already been tested somewhere in practice. Instead of following any particular economic or monetary school of thought, it is a *whole systems approach* which has informed my viewpoint on money and has been - hopefully unobtrusively - woven below the surface of this book.

A *systems analysis* involves identifying and describing four aspects of a given reality:

1. Its *actors*, (individual or collective),
2. the *processes* (interactions between actors),
3. the *rules* (e.g. laws of nature, or in our case human laws governing the creation and flow of money),
4. and the *context*, identified by the interactions of the money system with other systems and the broader environment.

A *whole systems approach* defines this context in a broader way than economics does, so as to integrate as much as possible the most important side-effects. This includes specifically in our case the effects of different money systems on the character of human interactions, on the evolution of human society, and on ecological systems.

In this context, each Part of this book can be seen as a step toward *broadening your understanding of the whole system* that relates to money. Part One elucidates the mysteries of the conventional national currency system. Part Two widens the view to encompass newly emerging money systems. The current book deals therefore with money in the world *outside* of us, describing how different money systems shape society.

The forthcoming *Mystery of Money: Beyond Greed and* completes our money tour with the one residing *inside* our own heads. It thereby steps up the scope of our money landscape one last notch by exploring the imaginal world of money and the collective emotions embedded in different money systems.

The challenge is to bring these ideas down from the academic and monetary ivory towers while keeping them conceptually sound, and ending up with a fun text

Sidebars

Short vignettes or intriguing anecdotes illustrating a point will be enclosed as sidebars like this. They can be skipped without harming comprehension of the main text. But you may miss a few laughs and surprises in the process.

accessible to the broad public. I have used footnotes and technical Appendices to explain complexities that are not essential to following the main arguments of the text. This is not a Treatise on money, as my intention is to bring to light only those aspects that are essential to understanding the money choices at our disposal for shaping our future over the next two decades.

Stories

There will also be stories that take many forms, from totally real to quite imaginary. They include newspaper clippings, letters to a friend, fairy tales for my seven-year-old godchild, or notes from my time travel days. They are an integral part of the text, and will be identified by boxes like this one. Although they make a point where they appear, they can also stand alone.

Chapter 1: Money - The Root of All Possibilities

*“Money is like an iron ring we put through our nose.
It is now leading us wherever it wants.
We just forgot that we are the ones who designed it.”*

Mark Kinney

*“The future is not some place we are going to, but one we are creating.
The paths are not to be found, but made, and the activity of making them
changes both the maker and the destination.”*

John Schaar

*“The modern crises are, in fact, man-made
and differ from many of their predecessors in that they can be dealt with.”*

Second Report to the Club of Rome¹

This book explains how we can create “Sustainable Abundance” worldwide within less than one generation. Between Chapter 1 and 9, you will come to understand why “Sustainable Abundance” is not a contradiction in terms. You will learn of the historical evolution that have hindered its development -- until now. You will be given the background knowledge necessary for understanding the trends, currently emerging worldwide, that can make Sustainable Abundance possible in the foreseeable future. This chapter illustrates why such a momentous improvement could paradoxically result from a crisis--specifically, the convergence of historically unprecedented societal and economic challenges that we are facing right now. Whether or not we use these challenges as an opportunity for conscious change, their convergence ensures that significant change has become inevitable.

¹ Mesarovic, Mihajlo and Pesterl E. Mankind at the Turning Point: The second report to the Club of Rome (New York: New American Library, 1974).

The Time-Compacting Machine

Once upon a time, the very inventive inhabitants of an extraordinarily lush and beautiful planet created, much to their surprise, a gigantic machine. Most surprising to them was the discovery that this machine compacted time. Because of this remarkable feature, their colossal invention actually forced them to become aware of some incompatibilities--that lay precariously between their most cherished, well-established habits and their own survival.

One day, these people realized that four powerful mega-trends were converging like giant pistons toward the same place and time. Perhaps because they had each been generated by the very inventive people themselves, these four mega-trends were hard for these people to see, and harder yet for them to address. The Time-Compacting Machine created by these ingenious, yet sadly shortsighted, people is represented in Figure 1.1. By the way, if you look closely, you may find that these people, their planet, and their Time-Compacting Machine are very familiar.

Figure 1.1 The Time-Compacting Machine

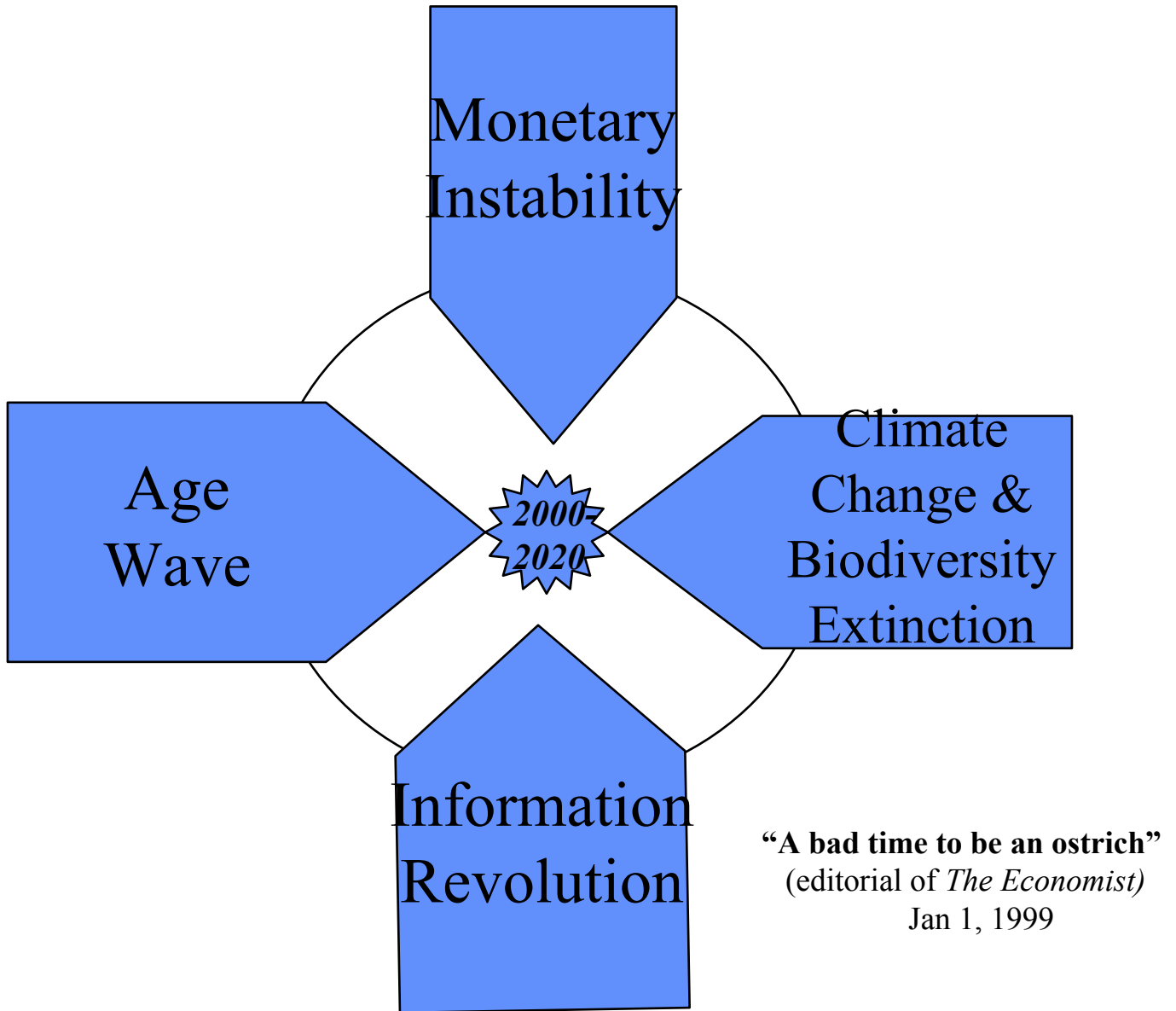


Figure 1.1 The Time-Compacting Machine

This extraordinary Time-Compacting machine consists of four giant megatrend pistons moving at varying speeds toward the same destination. Imagine that two pistons are like icebergs--an *Age Wave* and *Global Climate Change and Species Extinction*--both moving at a glacier-like pace, but

with inexorable inertia, toward the same place and time. The other two giant pistons--*Monetary Instability* on the one side and the *Information Revolution* on the other--are moving faster and more erratically, like ships--Titanics--and are also heading toward the same place and time.

All four of these megatrends will be briefly described next. Each issue will be synthesized into a single, hard “money question,” a substantial question to which some kind of response will occur--either by default or by design--within the next decade. The rest of this book will reveal how these “money questions” can be turned around into a surprising opportunity to make Sustainable Abundance a reality.

The first step is to recognize that this is “a bad time to be an ostrich,” as *The Economist* editorialized on January 1, 1999. An ostrich may experience some short term psychological comfort, but vital parts of its anatomy are at high risk. In short, the time has come to pull our heads out from under the sand. We start with the Age Wave--the slowest of these megatrends, but also the one that is most inexorably certain.

1. Age Wave

For 99% of the existence of our species, life expectancy has been about 18 years. Over the past century, particularly the past few decades, the combined impact of dramatic advances in hygiene, nutrition, lifestyle, and medicine has had a cumulative effect on the number of years that people can expect to live. In the developed world, life expectancy has now risen to 80 years for women, and to 76 years for men. One remarkable consequence is that *2/3 of all human beings who have ever reached the age of 65 are alive today.*² By the way, the age of 65 was initially chosen by Bismarck (founder of the German state) as an official “retirement age” during the 19th century, when the life expectancy in Germany was 48 years. Very few people were expected to reach that hallowed age, and our entire social contract around jobs and pension systems was geared to take care of these few people.

² All the preceding data about aging trends come from a conference in January 1999 in the San Francisco Bay Area by Ken Dytwald, founder of Age Wave Inc., and author of a/o. [Age Wave](#), and [Wellness and Health Promotion for the Elderly](#).

Over the next few decades, a demographic transformation that is totally predictable will play out--all the people involved are accounted for today. In the developed world, about one person in seven is now over 65 years of age. Compare that with only one in 11 people back in 1960. Within two decades, one out of every five people will reach that canonical age; and by 2030 almost one out of every four! (Figure 1.2).

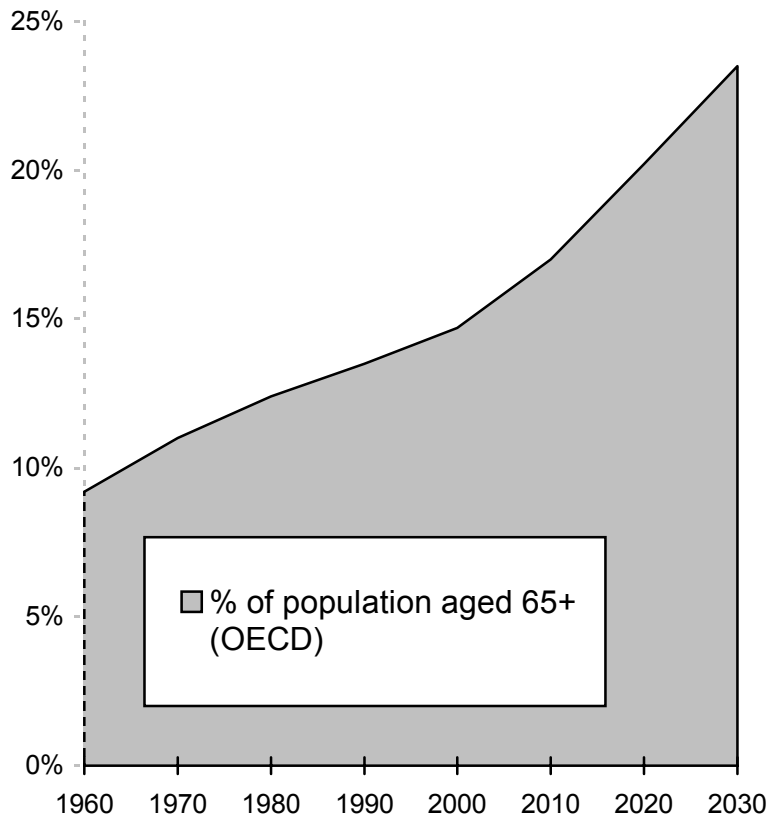


Figure 1.2 The Gray Wave: Percent of Total Population Aged 65 or Over (OECD)³

This unprecedented “Age Wave” will transform the economics and politics of the world. One expert’s opinion is that “Global aging will become not just the transcendent economic issue of the 21st century, but the transcendent political issue as well. It will dominate and haunt the public-policy agendas of the developed countries and force renegotiations of their social contracts.”⁴ There are no

³ Data from Petersen, Peter G. “Gray Dawn: The Global Aging Crisis” in *Foreign Affairs* (January-February 1999)

⁴ Petersen, Peter G. “Gray Dawn: The Global Aging Crisis” in *Foreign Affairs* (January-February 1999) pg. 43.

historical precedents that we can draw from to handle the issues this Age Wave is raising around the world.

This global graying trend does offer a few positive effects. For instance, you are more likely than anybody in previous generations to join this unprecedented population of elderly. One could even hope that, with such a high percentage of mature people, the incoming Knowledge Society might evolve into an era that deserves to be called a Wisdom Age. Time will tell.

More sobering issues, however, will need to be addressed during the current transition period. For example, unfunded pension liabilities are a serious problem. These are benefits already earned by today’s workers, but for which no reserves exist because the funds have been paid out as benefits to the currently retired population. These unfunded

liabilities have now accumulated to *\$35 trillion* in the OECD countries alone⁶ (this is more than four years of the entire Gross National Product of the US economy). Adding in healthcare to the cost would more than double that figure. And even these staggering numbers do not take into account the future growth in the number of the elderly reflected in Figure 1.2.

Global Aging: Some Facts and Figures⁵

- In Florida today, almost one in five people (18.5%) are 65 years or older. It represents a model of the future everywhere. This “Florida benchmark” will be reached for the following countries as a whole in the years indicated:
 Italy 2003
 Japan 2005
 Germany 2006
 UK 2016
 France 2016
 Canada 2021
 USA 2023
- This aging process is not only an issue in developed countries. In fact, in developing countries, the aging process is starting somewhat later, but will unfold faster than in the developed areas. For instance, in France it took one century for the elderly to grow from 7 to 14% of the population. For South Korea, Taiwan, Singapore and China this is projected to happen in a time span of only 25 years.
- The United Nations forecasts that by 2050, the number of people aged 65 to 84 worldwide will grow from 400 million to 1.3 billion (a three-fold increase). The number of people aged 85 and older will grow from 26 million to 175 million (a sixfold increase). Finally, centenarians (100 and over) will grow from 135,000 to 2.2 million (a sixteen-fold increase). Some people may believe such an Age Wave to produce only superficial changes in society (see New Yorker cartoon). In fact, such a massive demographic shift is bound to change the very structure of society.

New Yorker Cartoon
 “206 isn’t old”

- The following hard “money question” synthesizes the socioeconomic dilemma that this Age Wave presents: ***How will society provide the elderly with the money to match their longevity?***

⁵ All data in this sidebar from Petersen, Peter G. “Gray Dawn: The Global Aging Crisis” in Foreign Affairs (January-February 1999) pg. 44-45.

⁶ Data in this paragraph from Petersen, Peter G. Ibid. Pg. 46.

2. Information Revolution

Two hundred years ago, Benjamin Franklin claimed that if everyone were to work productively, the workday would need be only five hours. Sixty years ago, Bertrand Russell, an English philosopher, and Louis Mumford, an American authority on culture, both estimated that a 20-hour work week should be enough time to produce all the necessary goods and services in our society. For the past 30 years, many economists have forecast reduced work-weeks or retirement at age 38. *The New York Times* predicted specifically on October 19, 1967 that “By the year 2000, people will work no more than four days a week and less than eight hours a day. With legal holidays and long vacations, this could result in annual working period of 147 days and 218 days off.”

In contrast with all these predictions, what has actually been happening is a fierce, global struggle for jobs. At least 700 million able and willing people are chronically unemployed or under-employed worldwide. Unemployment used to be primarily a Third World problem, but has now spread to “developed” countries as well. Europe experiences its worst job crisis since the 1930s; Japan its worst employment crunch ever. For the US, the same scramble for jobs has manifested as a worsening of working conditions, rather than as straightforward unemployment. While American labor productivity has grown by 30% between 1973 and 1993, pay has dropped by about 20% in real terms over the same time period. At the same time, average working hours increased by 15% and white-collar workaholism has become a tacit requirement to keep your job. According to psychologist Barbara Killinger, “Workaholism has become the major source of marital breakdown.”⁷ The United Nations International Labor Organization labels job stress “a global phenomenon.”⁸

The harsh reality is that the post-Industrial global economy does not need--and therefore cannot and will not provide--jobs for the 6 billion people on the planet today, not to speak of the 8 billion forecast for 2019. Jobless growth for major corporations worldwide is not a forecast, but an established trend. The extent to which the writing is on the wall can be comprehended by statistics quoted by William Greider⁹: the world’s 500 largest corporations have managed to increase their

⁷ Killinger, Barbara *Workaholics: The Respectable Addict* (Toronto: Key Porter Books, 1991) pg. 7.

⁸ “Job Stress Characterized as ‘Global Phenomenon’.” *Oakland Tribune* March 23, 1993, D-11.

⁹ Greider, William: *One World: Ready or Not* (New York: Simon and Schuster, 1997; juxtaposition quoted in *Success Digest* March 1997

production and sales by 700% over the past 20 years, while at the same time *reducing* their total workforce.

Economists will correctly argue that productivity improvements in one sector tend to create jobs in other sectors, and that therefore ‘in the long run’ technological change doesn’t matter. However, nobody can claim that technological shifts are not generating massive *displacements* of jobs, fundamental changes of the qualifications required to perform a function. If the changes are rapid--as is the case with Information Technology--such job displacements are just as destructive as permanent job losses. How many steelworkers can realistically expect to be retrained as computer programmers or corporate lawyers, however strong the demand is in these sectors?

William Bridges, an expert on the future of employment, has concluded that “within a generation, our scramble for jobs will look like a fight over deck chairs on the Titanic.”¹⁰

To add insult to injury, the only societies in the world today that work less than four hours a day are the surviving “primitive” hunter-gatherer tribes, living roughly as they did over the past 20,000 years. Similarly, the common agricultural laborer in 10th to 13th century Medieval Europe spent less than half of his waking hours on work.¹¹ Are we going wrong somewhere?

Wassily Leontieff, Nobel Prize-winning economist, has summarized the overall process as follows: “The role of humans as the most important factor of production is bound to diminish in the same way that the role of horses in agricultural production was first diminished and then eliminated by the introduction of tractors.”¹² We could let the horses peacefully die out, but what do we do with people?

- The “money question” here is: ***How can we provide a living to additional billions of people when our technologies make jobless growth a clear possibility?***

¹⁰ William Bridges, author of Understanding Today’s Job/Shift in a conference in San Francisco, 1995

¹¹ This period has been labeled by historians “Europe’s First Renaissance” and “Europe’s Common People Renaissance” because of the unusual high standard of living of the common people.

¹² Quoted by Rifkin, Jeremy in “After Work” Utne Reader May June 1995 pg. 54. Several of the examples provided above are also quoted in that article.

3. Climate Change and Biodiversity Extinction

Consider the following facts:

- Munich Re, the world's largest reinsurance company, when it tallied up the total insurance losses due to the September 11 events warned that its worse concerns for the future are not terrorism but climate change. The frequency of major natural disasters is now *treble* what it was in the 1960s. For each *year* since 1998, the insurance losses due to storms, floods, droughts and fires are higher than what was paid out for the entire decade of the 1980s . 85% of all insurance payments worldwide now go for compensating for natural disasters. CGNU, the largest insurance company in the UK, forecasts that- at the current rate of increase of the property damages – the cost will be higher than the entire world production by the year 2065.¹³ A combination of deforestation and climate change is blamed for these problems.¹⁴ Of course, all this measures only the minority of the assets in the world which are actually insured in the first place. Another measure of Nature's increased violence is that now four times more people die in natural disasters than in all war and civil disturbances combined.

¹³ Dr. Andrew Dlugolecki, director of the CGNU, sixth largest insurance company in the world, in his report to the 6th the 6th Conference of Parties (COP 6) at the UN Framework Convention on Climate Change, November 23, 2000. See <http://ens.lycos.com/ens/nov2000/2000L-11-24-11.html>

¹⁴ Report of the Associated Press, filed by Donna Abu-Nasr on November 27, 1998.

Climate Change: Some Findings

- For the first time ever, a cruise ship sailed through the North Pole during the Summer of 2000, normally blocked by ice. The Arctic ice cap was therefore split into two parts at that point.
- Snow and ice cores removed from the Himalayas prove that the past 50 years have been the hottest in 1000 years, and the past 10 years the hottest of all. Similar results are found in the highest mountains in Africa and in South America. The consequences for the water supply of vast areas, reliant for the past 10,000 years on the water from these glaciers will be felt long before we have the answers to global climate changes.¹⁵
- Franco Andaloro, from the Italian Institute for Maritime Research, reports that the Mediterranean temperature has increased by 4 degrees C, to the point that many Mediterranean fish species have emigrated towards the North Atlantic and have been replaced by tropical species.¹⁶
- Engineers designing storm sewers, bridges and culverts used to plan for “hundred year storms.” Thomas Karl, of the National Oceanic and Atmospheric Administration says “There isn’t really a hundred-year event anymore. We seem to be getting these storms of the century every couple of years.” Some storms of 97-98, like hurricane Mitch, have qualified as a “five-hundred year storm.”
- Charles Keeling of the Scripps Institution of Oceanography has shown that Spring starts about a week earlier globally and that temperature swings are growing stronger (*Nature* July 1996). The years 1990, 1995 and 1997 included the warmest days in the Northern Hemisphere in the past 500 years (*Nature* April 22, 1998). Furthermore, there is more and more evidence that permanent climate change is possible in remarkably short time periods, in the time lapse of decades instead of centuries, as was thought until now.
- A major study on coral reefs by marine biologists for the World Bank concludes that in only two years time (1998-2000) between 50% and 95% of all the reefs of the Indian Ocean (stretching from South Africa to the Indian subcontinent) have died. Corals – one of the richest bio-habitats in the world – cannot tolerate a rise in sea temperature of over 2 degrees Celsius (4 Fahrenheit) for more than a few weeks. In 1998 the temperature rose for the first time 3 degrees Celsius above normal for several weeks. Coral reefs are an essential element in the food chain for coastal people, providing nurseries for fish and shallow hunting grounds for fishing boats. In Kenya, Tanzania, the Seychelles, Sri Lanka and the Maldives, a significant economic impact has already been registered.¹⁷
- The freezing level of the atmosphere--the height at which the air temperature reaches freezing--has been gaining altitude since 1970 at the rate of nearly 15 feet per year. Tropical glaciers are melting at what the Ohio State researchers term “striking rates.” “The Lewis glacier on Mount Kenya has lost 40% of its mass, in the Ruwenzori all the glaciers are in massive retreat. Everything in Patagonia is retreating. ...We’ve seen that plants are moving up the mountain. ...I frankly don’t know what additional evidence you need,” claims Ellen Mosley Thompson of the Ohio University Team.
- Not all effects are unpleasant: scientist have found that 35 of the 60 species of British butterfly are now arriving earlier and flying further North than before: e.g. the peacock and the orange tip butterfly arrive 15 to 25 days sooner than two decades ago; the red admiral is now appearing 32 days earlier and surviving 8 days longer than before. A dozen other species are emerging between 8 and 26 days earlier than in previous generations.¹⁸
- The European research satellites ERS-1 and ERS-2 have shown that the West Antarctic Ice sheet in Antarctica is receding at the rate of more than one kilometer (6/10th of a mile) per year. Barclay Kamb, a noted glaciologist at Caltech, comments “I was rather skeptical of this idea of Antarctic Ice Sheet disintegration. ...But now, the evidence for rapid ice changes is good enough that the worst-case scenarios are worth worrying about. ...If the ice sheet disintegrated, sea levels would rise by about 5 meters (20 feet).” This would drown many coastlines around the world, transform most harbor cities into swamps, and make many islands in the Pacific uninhabitable.¹⁹ On April 17, 1998, US government scientists reported that a 75-square-mile chunk of the Larsen ice shelf (eastern side of the Antarctica’s ice sheet) had broken loose and blamed the break-up on global climate change. “This may be the beginning of the end of the Larsen ice shelf” said US National Snow and Ice Data Center researcher Ted Scambos.
- The Canadian ice-breaker *Des Groseillers* has been frozen in place in the Arctic as an Ice-Station since September 1997 for project SHEBA, the most comprehensive attempt at establishing a heat budget for the Arctic Ocean. “The final results are not yet in, but SHEBA has already determined one worrying fact: the sea ice is thinner and less stable than usual, and the icecap is receding rapidly.”²⁰
- About half of the planet’s population lives in the “coastal areas” which would be directly affected by changes in the sea level.²¹

¹⁵ USA Today September 18, 2000 pg. F1 D.
¹⁶ “Klimawandel stoppt den Tourismus in Südeuropa” (Nienburg: Kreiszeitung, Donnerstag 17. Juli 2003) pg. 1.

¹⁷ “Coral Reef Degradation in the Indian Ocean” (CORDIO study) reported in *The Economist* (October 28-November 3, 2000) pg. 44.

¹⁸ Nuttal, Nick “Climate Change lures butterflies here early” *The Times*, May 24, 2000 pg. 5; reporting on a study performed by the Centre for Ecology and Hydrology at Monks Wood, Cambridgeshire from 1976 to 1998 and published in *Global Change Biology*.

¹⁹ Davidson, Keay “Ice of Antarctica May be Melting” *San Francisco Examiner* August 2, 1998 pg. A4.

²⁰ *The Economist* (January 1, 1999) pg. 32.

²¹ Caffrey, Andy “Antarctica’s ‘Deep Impact’ Threat” *Earth Island Journal* (Summer 1998) pg 26.

- Substantial changes in weather patterns have been observed everywhere (sidebar).
- In 1998, the American Museum of Natural History made a survey among professional biologists (*not* ecologists), the majority of whom work for large corporations. A striking 69% of them have concluded that we are living now through the “sixth extinction.” This species extinction seems to be happening more rapidly and affecting a wider range of biodiversity than any of the previous five. This is even faster than the last extinction, over 60 million years ago, when an asteroid wiped out the dinosaurs. The claim is that we are in the process of losing between 30% and 70% of the planet’s biodiversity within a time span of only 20 to 30 years. The other difference from all previous extinction is that this one is due to the actions of one species - our own - which also claims to be the only one endowed with intelligence and consciousness..
- The following public *Warning to Humanity* was unanimously agreed to by 1,600 scientists, including a majority of living Nobel Prize winners in the sciences: “A great change in stewardship of the Earth and the life on it is required, if vast human misery is to be avoided and our global home on this planet is not be irretrievably mutilated. ...If not checked, many of our current practices may so put at serious risk the future that we wish for human society and the plant and animal kingdoms, and may so alter the living world, that it will be unable to sustain life in the manner that we know. Fundamental changes are urgent if we are to avoid the collision our present course will bring about.”²²
- The prestigious American Geophysical Union (AGU) is an apolitical international organization of scientists. Its 35,000 members include most of the foremost specialists who study both historical and current evidence of global climate change in the atmosphere, glaciers, oceans, forests and deserts. In a recent report, the AGU concluded that “Greenhouse gases rising into the atmosphere from burning fossil fuels and other pollutants will increase the pace of global warming and disrupt many regions of the world. Those gases could persist in the atmosphere for thousands of years, and despite uncertainties about just how high worldwide temperature might

²² [Warning to Humanity](#)

go and how to combat the climate changes, new strategies must be developed to deal with the problem.”²³

- In a separate initiative, a global meeting of 2,800 economists, including Nobel-prize laureates James Tobin and John Harsanyi, unanimously agreed on the following opinion: “Global climate change is a *real and pressing danger*,” carrying with it significant environmental, economic, social and geopolitical risks.²⁴

All these exhortations invariably seem to hit a brick wall wherever serious financial interests are involved. Financial markets focus on the next quarter’s results, and even if a particular CEO were to advocate for longer term priorities at the expense of immediate results, he or she would be ruthlessly punished or even removed from office. Only when we have resolved the next “money question” is there any real chance to address the climate change and the biodiversity extinction problems in a timely and systematic way.

- So our bottom-line question here is: ***How can we resolve the conflict between short-term financial interests and long-term sustainability?***

4. Monetary Instability

Michel Camdessus, the first to be elected three times as managing director of the International Monetary Fund (IMF), went on record as describing the December, 1994, Mexican near-cataclysm as “the first financial crisis of the 21st century.” A total economic meltdown was avoided only because the US cobbled together a last-minute emergency package of unprecedented scale--\$50 billion dollars. However, after the Mexican crash, even Mr. Camdessus did not expect the scale and speed of the Southeast Asian crisis of 1997, which dwarfed the Mexican episode, with emergency packages that made the Mexican bailout look puny. This was followed by the Russian crisis of 1998, and by the Brazilian crash in early 1999. Unless precautions are taken, there is at least a 50-50 chance that the next five to 10 years will see a dollar crisis that would amount to a global money meltdown. Currently, the monetary crisis has spread to three continents. Alan Greenspan, Chairman

²³ Perlman, David “Warning of Impact of Global Warming: Scientists forecast economic disruptions.” San Francisco Chronicle (Friday, January 29, 1999) pg A-4.

²⁴ Adbusters: Journal of the Mental Environment (Winter 1997). pg. 41

of the Federal Reserve, stated in a speech at the University of California at Berkeley, “it is not credible that the United States can remain unaffected by a world that is experiencing greatly increased stress.” Mr. Rubbing, the US Secretary of Treasury adds: “The number of countries experiencing difficulties at once is something we have never seen before.”

Paul Krugman, “the most acclaimed economist of his generation,”²⁵ somberly concludes in “Return of Depression Economics” in *Foreign Affairs*: “As little as two years ago, I and most of my colleagues were quite confident that although the world would continue to suffer economic difficulties, those problems would not bear much resemblance to the crisis of the 1930s. ...The truth is that the world economy poses more dangers than we had imagined. Problems we thought we knew how to cure have once again become intractable, like temporarily suppressed bacteria that eventually evolve a resistance to antibiotics. ...There is, in short, a definite whiff of the 1930s in the air.”²⁶

In the next section (the Primer), you will learn why these repeated crashes are not random accidents, but signs of systemic dislocations of the official monetary system. This implies that no country should consider itself immune from such problems: not China, not Germany, not even all of Europe, nor the US.

- The last money question is straightforward: ***How can we prepare for the possibility of a monetary crisis?***

Money at the Core of the Time Compacting Machine

The extraordinary convergence of these four megatrends over the next two decades shows why Peter Russell was right in predicting that, “over the next 20 years, as much change will happen in the world as has occurred over the past 200 years.”²⁷ I would add that, in order to deal with the challenges just described, we are going *to have to change as much in our consciousness about money over the next 20 years as we have over the past 5,000 years.*

²⁵ as receiver of the John Bates Clark Medal, a prize given to the best economist under the age of forty.

²⁶ Krugman, Paul “The Return of Depression Economics” *Foreign Affairs* (January - February 1999) pg. 42-74.

²⁷ Russell, Peter *The White Hole in Time* (New York: Aquarian/Thompson, 1992) pg. 198

Figure 1.3 summarizes the four money questions of the Time Compacting Machine. Whether we like it or not, some kind of answer will manifest for each one of these questions. Together, they indicate that something fundamental will have to change in our current way of dealing with money.

Money at Core of Time-Compacting Machine

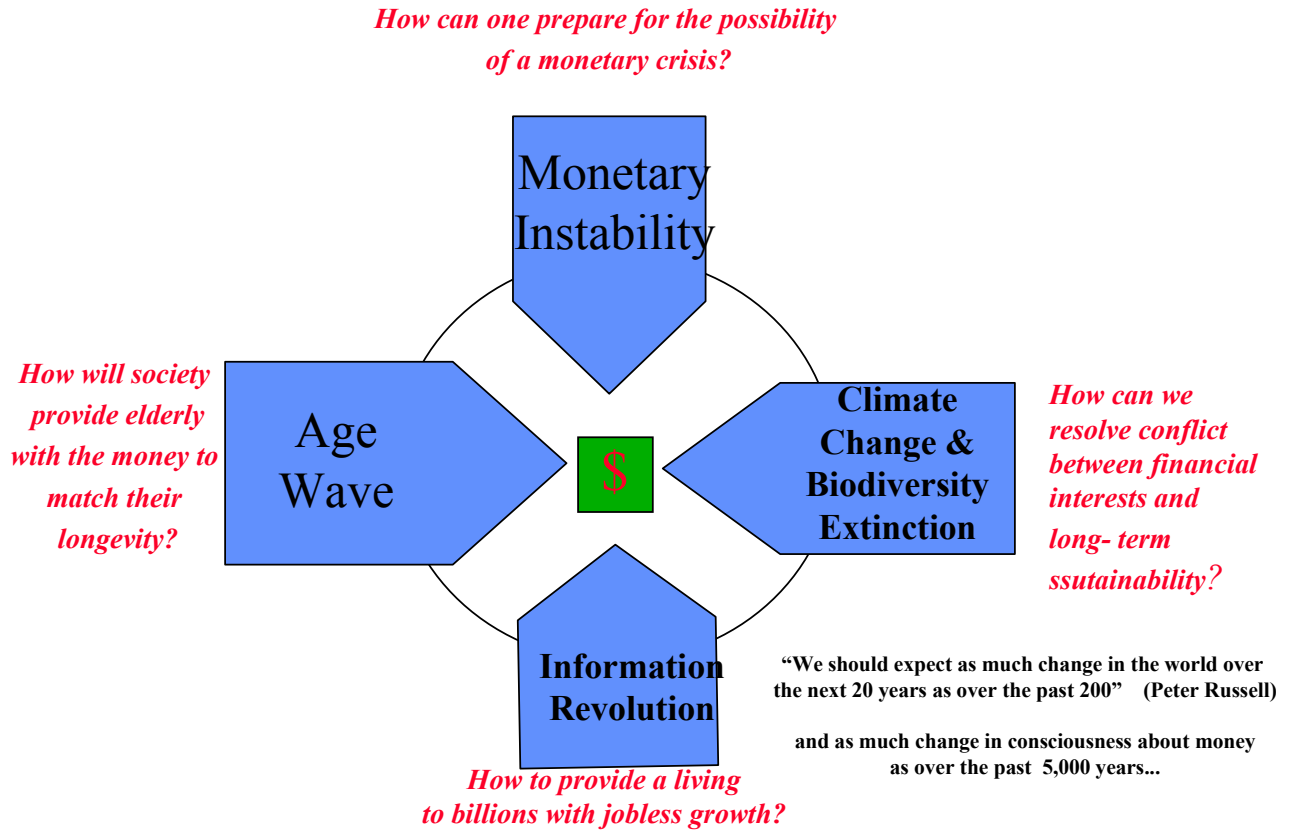


Figure 1.3 Money at the Core of the Time Compacting Machine

Today’s interpretation of money needs to be questioned if we are to address these issues. Remaining locked within the prevailing money paradigm amounts to collectively doing what the cartoonist Cardon depicts so soberly.

Cardon Cartoon
“Remaining locked in the prevailing interpretation of money...”

What is Sustainable Abundance?

However, another outcome is also available -- one that would lead to “Sustainable Abundance”. Sustainable Abundance provides humanity with the ability to flourish and grow materially, emotionally, and spiritually without squandering resources from the future. A synonym could be *wise growth*. It is characteristic of a community, society, country, or global system that gives people the opportunity to express their highest creative calling, without diminishing the prospects for coming generations to enjoy the same or a better way of life. It is about having our material needs met so that we can explore our highest potentiality as human beings.

With such a fundamental commitment, it would be considered our birthright to have a fair chance to develop our true potential--unhampered by a lack of money. Sustainable Abundance addresses issues ranging from grinding poverty in the Third World to the bleakness of community decay in the industrialized areas, from ecological breakdown to the wasting of a child’s mind due to lack of educational opportunity.

Sustainable Abundance is *not* about taking away from the haves to distribute to the have nots. On the contrary, it is about giving everybody a fair shake at an opportunity to *create new wealth*. By learning the principles of Sustainable Abundance, you can become a part of this quiet but momentous evolution.

*“In times of extraordinary change,
it is no failure to fall short of realizing all that we might dream -
the failure is to fall short of dreaming all that we might realize.”²⁸*

While Sustainable Abundance may seem like a dream, it has now become a realistic possibility. All the necessary seedlings have sprouted and are beginning to take root. The story of these seedlings, the various innovations now occurring within money systems, will be told here. You will also discover why this avenue of change is becoming more plausible as we transit through the current

²⁸ Dee Hock, Founder and Chairman Emeritus VISA International

information revolution from an Industrial Age economy to the incoming values of an Age of Knowledge.

Sustainable Abundance may sound to some like an oxymoron, a contradiction in terms. “Greens” support sustainability, but are sometimes suspicious of abundance. Business will be in favor of abundance, but may question the emphasis on sustainability. These apparent contradictions will be resolved once the possibilities of new currency systems are fully understood.

The following core thesis forms the foundation of this book. *We are now engaged in a structural shift of the world system, and this shift offers an unprecedented opportunity to give birth to Sustainable Abundance.*

Structural change has been formally defined as follows. “In systems terms changing structure means changing the *information* links in a system: the content and timeliness of the data that the actors in the system have to work with, and the goals, incentives, costs and feedbacks that motivate or constrain behavior”²⁹

What is remarkable is that – even after identifying the key role of information systems in structural change -- the most important of our economic information systems, our money system, has been ignored as a key leverage point for inducing the necessary and desirable changes. This is the void that this book intends to fill.

²⁹ Meadows, Donella, et al. Beyond the Limits (Post Mills, Vermont: Chelsea Green Publishing, 1992) pg 191 *italics in original.*

The fact that changes in money systems are increasingly possible during an information revolution should come as no surprise. Money is modern society's central information system, akin to the nervous system in our own bodies (see sidebar). Mutations in a nervous system are relatively rare but rather important events in the biological evolution of a species. Similarly, a change in the nature of our money system has the potential to facilitate a fundamental shift in our societies.

It is also important to understand that Sustainable Abundance is not a state, but a process.³¹

To participate in this process, we will need to:

- *Understand the premises upon which our existing money system is based;*
- *Become aware of the existence of other money systems that can perform functions which conventional national currencies have proven ill-equipped to fulfill;*
- *Based upon this understanding, make informed choices about which **currencies to use for what types of transactions -- choices that are compatible with the type of relationship, reciprocal or competitive -- that we want to establish with our counterpart in any given exchange.***

You will see that conventional national currencies and monetary systems are programmed to produce competition and to remain scarce. With a choice of currencies available, it will make sense to continue using conventional currencies to do business, to purchase a car or gasoline, and to pay your telephone bill. However, you may want to consider using a cooperation-inducing currency to

Money as an Information System

Money is our *oldest* information system--even "writing was invented in Mesopotamia as a method of book-keeping."³⁰ The earliest texts available, from 3200 BC in Uruk, describe various financial transactions, including secured and unsecured lending, and "foreign exchange" transactions.

Money is our *most pervasive* information system, as it percolates through billions of daily exchanges in all strata of society.

Today, money has become a truly *global* information system--now that trillions of dollars are moving at the speed of light in a totally integrated, round-the-clock, computerized foreign exchange market.

Money has also become our most *universal* information system, now that even "communist" China has decided to rely primarily on private monetary incentives to motivate its vast population.

In short, our contemporary global money system plays a role similar to the *autonomous nervous system* of the human body because it is essential to the functioning of the whole, but has remained until now mostly unconscious, beyond the control of an individual's will-power. In this metaphor, our objective here is to bring *conscious awareness and choice* to the implications of using different money systems.

³⁰ Oates, J. Babylon (London, 1979) pg. 25

³¹ Sustainability as a *process* as opposed to a passive state has been identified earlier in the "Brundlandt Report" prepared for the World Commission on Environment and Development (WCED) entitled Our Common Future (Oxford: Oxford University Press, 1987) and in Meadows, Donella, et al. Beyond the Limits (Post Mills, Vermont: Chelsea Green Publishing, 1992)

interact with your neighbors, take care of the elderly, or broaden the learning horizons of your children. One can see these two types of currencies as *complementary* to each other, to be used in parallel. It will even often make sense to use them in mixed payments (part conventional national currency, part complementary currency).

A remarkable variety of non-conventional currencies have already been spawned by current information technologies. Some have become familiar, like the Frequent Flyer Miles. Initially, they were a simple marketing gimmick to build customer loyalty. However, as they have become increasingly redeemable in a variety of services besides airline tickets -- such as long-distance phone calls, taxi services, hotels, even magazines -- they have developed into a “corporate scrip,” a private currency issued by airlines. Just as significantly, non-conventional currencies include local community currencies--still considered as marginal curiosities by most people (e.g. LETS currencies, Time Dollars, Ithaca Hours, etc.). They also include the Japanese “Caring Relationship Tickets” designed specifically for elderly care, and a Brazilian garbage recycling currency. All these non-traditional currencies are prototypes of the emerging money revolution.

The future of money therefore lies not only with the further computerization of our conventional currencies--such as dollars, Euros or Yen--via smartcards and other new information technologies. Such changes will happen. But these same information technologies also make it possible for new non-conventional complementary currencies to enter the mainstream and provide new tools for addressing some of our most pressing challenges, both locally and globally.

However, Sustainable Abundance is only one of the possible outcomes from the current transition period. It is a development that is neither automatic nor fore-ordained. It would require a shift in our perception of our relationship to money, the first in centuries.

Please note that none of the approaches proposed here are permanent solutions. Instead, they are transition tools, useful for perhaps the next 10 to 20 years, as we transit from the Industrial Age and to a Knowledge Age. We are living through an interval, a supremely uncomfortable time, when we are realizing, along with philosopher Thomas Berry, that “we are in between stories. The Old Story is not functioning properly any more, and we have not learned the New Story.” This book focuses on what we can do in this interval “between stories.”

What Prevents Sustainable Abundance?

The first hindrance to Sustainable Abundance is that *we are largely unconscious about our money system*, about the way money is created and managed in our societies. Even professional financial managers rarely understand how specific behavior patterns are programmed into our transactions by the type of money we use. We all live deeply enmeshed in a planetary money machine, most cogs of which we are unable to perceive, let alone understand or manage. Yet, the prevailing money system prescribes all of our economics, and much of our current social behavior and political climate. Our lack of awareness also explains some strange facts. For instance, we have the capacity to produce enough food for everyone on this planet and there is ample work as well, but obtaining the money to pay for it all is another matter. This means that the key to Sustainable Abundance lies within the money system itself, the very system about which, ironically, we have remained mostly unconscious--until now.

The second hindrance to Sustainable Abundance is the inertia of tradition and its related vested interests. However, this way of exerting power is now slipping away for the simple reason that as information technologies spread, so does control over currency creation and the related monetary interactions.

It is essential to understand that *the money system is currently undergoing irreversible changes--with profound implications*. As the Time Compacting Machine illustrates, using the existing money system to control society's economic well being has become counterproductive to all. Over the last decade, we have seen the official global money system take on unparalleled power, beyond the control of any authority, national or international. The global monetary crises, that periodically make media headlines, expose the cracks in the old money system. The changes go beyond the introduction of the single European currency (the Euro), smartcards, the explosion of e-commerce, or even a reform of the international monetary institutions. With the growing impact of the information revolution, and with repeated shocks to the status quo, symptoms of a much deeper mutation are becoming visible.

One implication of the above is that we see alterations in *who* is issuing money--not only traditional national banking systems, but private corporations and local communities as well. There are also changes in the *conditions* for issuing currency, such as the advent of interest-free money. Choosing

to use different types of currencies can result in different social behaviors--some money systems midwife cooperation while others encourage competition. Thus, by becoming aware of the various money systems and their effects, we can choose among these currencies when making different kinds of financial transactions. *Thus our ability to make knowledgeable choices allows us to imagine, devise and support different futures.*

With some understanding of the concepts behind Sustainable Abundance, we can now address what it means in practice. The four vignettes that follow provide insights into what Sustainable Abundance might look like in daily life for different parts of society around the world.

Four Seasons in 2020

All four cameos are set in the year 2020. Each relates to one of the “pistons” in the Time Compacting Machine, and illustrates how it is possible, using an existing complementary money system, to reconfigure an oncoming crisis into an opportunity for creating Sustainable Abundance. The vignettes provide a foretaste of what Sustainable Abundance might look and feel like in 2020. Some of these vignettes may appear almost magical at first. Nevertheless, as the science fiction writer Arthur C. Clarke points out: “magic is any sufficiently developed technology.” What is behind each of these stories is technology--related to money. Each vignette illustrates the result of a money innovation that has been successfully implemented, and is an on-going project currently somewhere in the world. Following each vignette is a first look at where to find an early prototype, today, that demonstrates the realism and plausibility of these stories.

The supporting evidence for the soundness of these new money technologies, and the possibilities that emerge from them, is the focus of the remainder of this book.

Spring

Mr. Yamada's Retirement Plan

Tomorrow is Mr. Yamada's 105th birthday--an important day. Everything has been carefully prepared for the feast. Mr. Yamada has manicured the Japanese tea garden through which the guests will enter. His eyesight is too weak for a driver's license, but still good enough for him to enjoy the Zen-like peace of his bushes and rocks, and to notice the first buds of Spring breaking through on his dwarf cherry tree.

In a few moments, one of the neighbors, a student at the nearby university, will come to bring him his evening meal and help him in the all-important daily bath ritual. He has enjoyed the dignity of independent living for all these years, and his wisdom and life experience are respected by his family and neighbors.

"Good evening, Yamadasan," says the student. "I brought your favorite fish stew, Yosenabe, as you like it." Mr. Yamada smiles back.

Life can be beautiful at 105, even on the meager pension of a long-retired bank clerk.

Japan has one of the fastest aging populations of the developed world. Already today, some 1.8 million elderly or handicapped Japanese need daily care. The current population of Florida, where 18.5% of the total population is 65 or over, is a good indicator of the aging demographics expected for Japan by the year 2005, the population over 65 years of age will reach 18.5% of the total. .

At his retirement in 1991, Mr. Tsutomu Hotta, a highly respected former Attorney General and Minister of Justice, decided to do something about this problem. He created a private organization called the Sawayaka Welfare Institute in 1995, that has been implementing a special currency called *Hureai Kippu* (literally "*Caring Relationship Tickets*"). The unit of account is an hour of service. Different kinds of services have different valuations (e.g. shopping or food preparation for an elderly person is valued at a lower hourly rate than body care for them). About 100 different non-profit

organizations agreed to use the same standard unit. The people providing the services can accumulate the credits in a “healthcare time savings account” from which they may draw when they need credits for themselves, for example if they get sick. These credits *complement* the normal healthcare insurance program payable in Yen, the conventional Japanese national currency. In addition, many prefer to transfer part or all of their *Hureai Kippu* credits to their parents who may live in another part of the country. Two private electronic clearing houses have sprung up to perform such transfers on a regional level. The Japanese government is currently evaluating the possibility of creating an official national clearing house to make such transfers available for all types of healthcare time credits everywhere in the country.

One particularly important finding has emerged. Because they have experienced a higher quality of care in their relationships with care-givers, the elderly tend to prefer the services provided by people paid in *Hureai Kippu* over those paid with the conventional Yen. To the student in our vignette, Mr. Yamada is a sort of surrogate for his own elderly father, who lives in another part of the country and to whom he sends part of his time credits.

As of 1999, this is all happening as a complement to the National Health Insurance Plan, which covers the necessary professional health services payable in Yen. For instance, if Mr. Yamada needed regular kidney dialysis or a professional chiropractic session, this would be covered by Health Insurance in Yen. Mr. Hotta foresees that “about one third to half of the conventional monetary functions will be picked up by these new currencies. As a result, the severity of any recession and unemployment will be significantly reduced.”³²

In an independent development, a health insurance company in New York state known as Elderplan, has been accepting since 1995 up to one quarter of its healthcare insurance premiums in Time Dollars, the brainchild of Edgar Cahn, a well-known lawyer and professor in Washington DC. Elderplan also operates a “Care Bank” where participants have already earned 97,623 hours of services up to June 1999. It started as a home repair service that fixed potential problems before they caused accidents. The Care Bank has as motto: A broken towel bar is a broken hip waiting to

³² In a personal interview of Mr. Hotta conducted by the author in February 20, 1999.

happen.³³ Here again, the users report that they enjoy the quality in human relations made possible by this approach. During the year 2000, the Elderplan system is spreading beyond Brooklyn to Queens, Staten Island and Manhattan.

The “*Hureai Kippu*,” Elderplan, and several other community-enhancing currencies will be described in more detail in Chapter 6.

Summer

³³ US News and World Report December 30, 1996 pg. 72.

A World in Balance

It's 1:00 p.m. For Anna, head of customer service for the largest telecommunications company based in Munich, the day is over. Using the high-speed metro, she returns to her other community, the village nestled in the foothills of the Alps, 15 minutes away.

She really enjoys her job, but she can't wait to get back to her studio and continue her work with stained glass. She just started her most ambitious project to date--a large stained-glass window depicting seminal events in her little town's history. At her village's next arts festival, which lasts two weeks during the Summer, she will donate the window to the Permanent Learning Center.

All of Anna's company colleagues have a similar lifestyle. Wolfgang in Finance is into African dance and has formed his own dance troupe; Birgit in MIS, whose passion is wood carving, is considering making the special wooden frames for Anna's window; Reiner in Human Resources restores old lutes and other musical instruments.

Because complementary currency systems support both types of activities, everybody in Anna's village has the choice to have a dual-career. Some people choose full-time work in a traditional corporate job. Some concentrate their energy on their artistic interests, earning mostly community currencies. Many combine the two because greater choice is available, and because life is simply more livable in a "World in Balance."

With the growth in productivity that has resulted from the Information Revolution, Juliet Schor, associate professor of Economics at Harvard University asserts that "We actually could have chosen a four-hour day. Or a working year of six months. Or every worker in the US could now be taking every other year off from work--with pay."

So why don't we?

The closest prototype that we can find in the 1990s for a "World in Balance" is occurring in Bali and some other traditional societies. People visiting Bali are astonished by the unusually vibrant and artistic quality of daily life. Almost every man is an accomplished artist; every woman a graceful

dancer; all find ways to be creative. Every village has 50 or more festival holidays held throughout the year, with elaborate ephemeral artful expressions.³⁴ Houses have elegant carvings, landscapes are exquisite.

What is so different about Bali and the Balinese? What if the world, our cities, our lives, became more like those of Bali? Many tourists visiting Bali are not aware that the Balinese consider the performances they see as “practice sessions.” The “real performances” happen in the temple or for temple-organized activities. The Balinese dedicate between 30% and 40% of their working hours to the temple, which organizes the cooperative, caring, artistic, and religious activities. These are what I later define as the “Cooperative” dimension of life. Most Balinese adults also have a professional job where they spend the other two-thirds of their working hours--in what I call the “Competitive” economy, the only one we know in the West.

“Temple time” is part of a long tradition of a “gift economy” in Bali. In the Western world, during the current transition period from the Post-Industrial Age, we may not be ready for a pure gift economy.

Nevertheless, it is possible for our future to include a “Cooperative” dimension in everyday life. What if we needed only a transition tool, a process through which we can re-build community and our trust in a gift economy?

Communities around the world have already created and implemented several types of complementary currencies that are compatible with, even result in, a gift economy. Called “mutual credit” currencies, they can always be created in amounts that are sufficient, rather than scarce. In contrast with competition-programmed national currencies, they are not scarcity based. They are created *by the participants at the moment of their transaction*. For instance, if you perform a service of one hour for me, you get a credit of one hour and I get a debit for the same amount. A simple barter would occur if I did something in exchange for you that is also valued at one hour. But using the mutual credit currency, you can purchase fresh eggs at the farmers’ market, and I can cancel my

³⁴ There are more than a thousand temples in Bali. Each temple has its *odalan* festival every 210 days, which last up to 3 days each.. In addition there are cyclical festivals at every full moon, every 4 years, every 10 years, every 100 years. There are also home-based ceremonies, and 5 or 6 major ceremonies in each person’s life, the most important of which is the cremation which can take more than a month to prepare. All in all, hindu Balinese men spend 30%, and women up to 40% of their time preparing for or performing in “temple time”.

debit with someone else. That means that we have created a true currency--one that is not artificially scarce. *Whenever we agree on a transaction, we can always create the money.*

One of the first scarcities to address is job scarcity. There are now 1,900 complementary currency systems operational in the world today, most of which have sprung up to generate local *work* in high unemployment areas. More than 400 communities in the UK have started their own electronic complementary currency system called the Local Exchange Trading System (LETS). Similarly, in Germany they are called *Tauschring*, in France *Grains de Sel*, and several hundred such grassroots projects are now operational in these countries as well. In the US, 39 communities have followed Ithaca, NY, in creating their own paper currency, redeemable only within the community. All of these systems will be explained in detail later.

These initiatives are often treated as marginal curiosities by mainstream media and academic circles. However, in New Zealand, Australia, Scotland and 30 different US states, regional governments have been funding the start-up of such systems because they have proven effective in solving local employment problems. The European Union is funding pilot complementary currency programs in four purposely very different settings and technologies: two in the countryside of Ireland and Scotland, and two in the major cities of Madrid and Amsterdam. In New Zealand, the Central Bank has discovered that complementary currencies actually *help* to control the overall inflation in the national currency. More about this will be presented in Chapters 5 and 8.

We can each only imagine what we would create if 40% of our working hours were available for “temple time,” whatever form that might take. Using this approach, would it not be possible for the Information Revolution to evolve into an authentic Age of Knowledge? What would each of us like to learn? What improvements would you like to make in your life?

Imagine what you could create on your own or with others.

Fall***A Bechtel Corporation Board Meeting in 2020***

The following text is an extract of the minutes of the annual Board meeting of Bechtel corporation, the largest construction and civil engineering company in the world.

“The Board considered the two main investment projects on today’s agenda:

- *A 300-year nature restoration project of the Southern Himalayan watershed*
- *A 500-year reforestation project of the sub-Sahara desert*

The Board decided unanimously to implement the 500-year sub-Sahara project, given that the Internal Rate of Return on this project is clearly superior. The Chairman added that the contribution of this project to overall global climate stability has been an additional incentive for his own vote for this project.”

Most business decisions today are made with horizons of less than five years, if not from one quarter to the next. Even the “long bond,” the longest-term conservative investment available today in dollars, has a maximum horizon of 30 years. Under contemporary financial criteria, a decision like the one above is unthinkable.

A pragmatic currency system will be presented later that would make decisions of this kind not only possible, but completely logical. Under such a money system, long-term concerns would be the norm, the *spontaneous* response. These concerns would be not only compatible with financial self-interest, but driven by it. No regulations or artificial tax incentives would be required to motivate corporations and individuals to think and act with the proverbial “seventh generation” in mind.

There have been at least two civilizations which had embedded in their monetary systems a key feature that made it “profitable” for people to make investments for the very long-term. These two historical precedents are Pharaonic Egypt, and the “Age of the Cathedrals” (the Central Middle Ages of the 10-13th century Western Europe). In both cases, this same feature, known as demurrage (a form of negative interest which discourages hoarding in the form of currency), was operational for centuries. The record shows that people spontaneously created buildings and art-forms that were

designed to last forever. You can still visit them today. This key mechanism behind such a money system can be replicated and efficiently adapted for the 21st century. Chapter 8 describes in detail how this is possible.

Of our bounty of 20th century creations, which ones will our descendants be able to visit in the year 3000?

If such a long-term oriented money system were operational today, what would be the “cathedrals of the 21st century”?

What would you imagine them to be? They don't have to be temples or buildings.

Winter

Your Grandniece's Trip to China

Your grandniece is passionate about early Chinese calligraphy and poetry. She has decided to improve her fluency in Mandarin Chinese by going for a six-month residency in China starting next year.

Here is her budget for this endeavor.

- Airline travel: paid in Frequent Flyer miles that both she and her parents have accumulated
- Local expenses: she has been saving her “Caring Relationship Tickets” over the past few years by taking care of two elderly neighbors in the university town where she studies. She will simply transfer her credits over the Net to be exchanged for the local currency of the Chinese university town where she plans to live.
- As your Christmas gift, you have decided to add US \$500 in conventional US dollars for incidental expenses that she may have along the way, and as a safety net for any unexpected emergency needs.

Having the option of using sufficiency-based currencies for part of our needs can make a big difference. A complementary currency clearing house could be operating globally on the Net even

today. Its purpose would be to enable those participating in any type of complementary currency (LETS, Time Dollars, *Hureai Kippu*, etc.) to trade with each other over the Net, each using their own currency. Even the idea of your grandniece using complementary currencies as an exchange system during her trip is not new. The Global Eco-village Network (GEN), an association of eco-villages founded in 1994, recommends such joint projects and exchanges between the different participating communities.³⁵

Complementary Currency systems and private payment systems can provide a useful *safety net* under the official monetary system. A spare tire may seem rather redundant--until you have a flat on the highway. In the monetary domain, the privately run “Golden Crown” payment system is used by a group of Russian corporations to barter amongst themselves. This is a real-life demonstration of just how useful a “spare tire” can be when the national currency gets into serious trouble.³⁶ The same life-saving importance was demonstrated at the grassroots level with the availability of local currencies after the crash of the baht in Thailand during 1997-98, and the ongoing *Redes de Trueque* (literally “barter networks”) active in Argentina for years. Grassroots currencies are explored in Chapter 5 to 7.

Creating Sustainable Abundance with Complementary Currencies

Without throwing away the positive contributions of the existing system, we can add new possibilities. It is often said that all crises contain hidden opportunities. The Chinese ideogram for “crisis” even contains explicitly the root “opportunity”. The opportunity that will be described in the pages to come may seem as extraordinary as the crisis itself. You will discover how it is possible to turn the Time Compacting Machine into a Sustainable Abundance Machine. This can be accomplished by revisiting the prevailing interpretation of money, by understanding how money actually operates, and by acting upon that knowledge.

The core thesis of this book can now be restated more pointedly as follows: *proven money innovations can solve the four “money questions,” summarized in Figure 1.3, and engender*

³⁵ GEN includes a series of eco-villages around the world, including the Findhorn Community (Scotland), The Farm (Tennessee, USA), Lebensgarten (Steyerberg, Germany), Crystal Waters (Australia), Ecoville (St. Petersburg, Russia), Gyûrûfû (Hungary), The Ladakh Project (India), the Manitou Institute (Colorado, USA) and the Danish Eco-Village Association. They have regional headquarters in Australia, Germany, the USA and Denmark.

³⁶ The Russian “Golden Crown” payment system is one of three case studies in Krüger, M. And Godschalk H. Herausforderung des bestehenden Geldsystems im Zuge seiner Digitalisierung - Chancen für Innovationen (Karlsruhe: Institut für Technikfolgenabschätzung und Systemanalyse November 1998).

Sustainable Abundance within one generation. The key is to introduce--in parallel with the existing money system--**complementary currencies** that have **already proven** that they can contribute to solving these uncompromisingly tough questions.

A **complementary currency** refers to an agreement among a group of people, and/or corporations, to accept a non-traditional currency as a means of payment. They are called complementary because their intent is *not* to replace the conventional national currency but to perform social functions that the official currency was not designed to fulfill.

Together, the exchanges facilitated by the conventional national currency economies *and* the complementary currencies form what I will define as the **Integral Economy**. The Integral Economy includes the processes studied by traditional economic theory, and goes beyond it. For instance, it includes transactions in the 1,900 complementary currency systems already operational today in local communities in a dozen countries around the world.

Such are the money innovations that were the basis for the Four Seasons vignettes of 2020.

We can now begin to see how the Time Compacting Machine could be transformed into a Sustainable Abundance Machine. Figure 1.4 maps how the four cameo stories fit into this process.

Four Seasons in 2020

Four Vignettes of Sustainable Abundance

Your grand'niece's China Trip

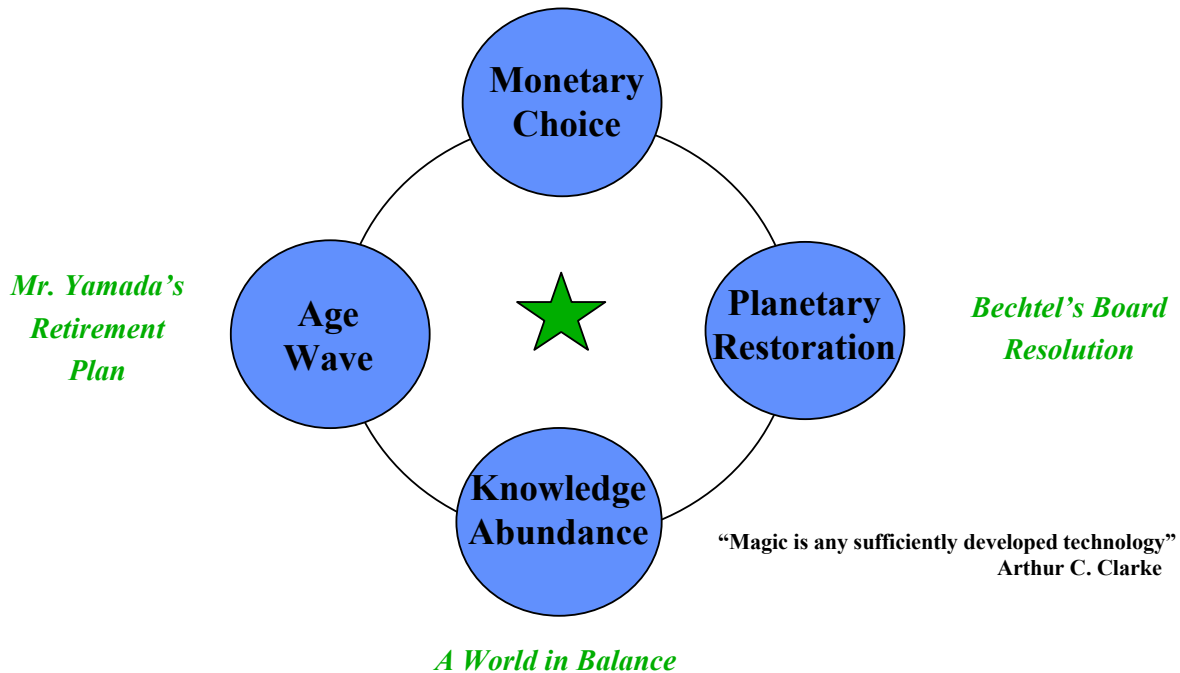


Figure 1.4 Mapping the Four Seasons Vignettes to Transform the Time Compacting Machine into a Sustainable Abundance Machine

This book provides detailed evidence that such a mutation is a realistic possibility.

A Road Map to Your Money, Your Future

The first necessary step is to demystify today's conventional national and international money system and identify the changes that are looming in that system. This is the purpose of Part One. *Part One: : What is Money?* lifts the veil around money to familiarize us with its nature, and with the creation and operation of conventional national currencies. In addition, the new money frontier--the "cybersphere"--is explored, in which many of the currency innovations are brewing. An inquiry is then launched into different possible futures for our money system and how they would reshape society. This last step uses scenarios that depict different worlds in the year 2020.

With an understanding of all this, it will become possible for you to perceive what is unique about the money innovations going on in the world, which is the subject of *Part Two: Choosing Your Future of Money*. This Part displays the extensive choice in non-conventional currencies operational today. You will learn how different objectives can be supported--or hindered--by a currency. Specifically, the creation of work opportunities, the revival of neighborhoods, and the re-aligning of long-term sustainability with current financial interests, can all manifest by using particular currencies designed for such ends.

But let us begin at the beginning, by exploring the deceptively simple question “What *is* Money?”

PART ONE: What Is Money?

“Economics is about money, and that’s why it is good.”

Woody Allen

And money is about...what ?

“Money ranks as one of the primary materials with which mankind builds the architecture of civilization”

Lewis Lapham³⁷

“We invented money and we use it, yet we cannot...understand its laws or control its actions. It has a life of its own”

Lionel Trilling³⁸

When we think about money, we tend to take for granted its basic characteristics, which have remained unchanged for centuries. We are not likely to visit the hidden assumptions embedded in our familiar money system, and we are even less likely to re-examine them in search of solutions.

Part One surfaces our hidden assumptions about money. In doing so, it also brings to light new potentials for our interactions around money. It is not about how to make, invest, or spend money. There are already plenty of books about all of that. It is about the concept of money, and how different money systems shape different societies.

You will learn why fundamental changes in our money system have become *inevitable*. While these changes may seem *frightening* in their scale, they also hold the promise of *unprecedented opportunity*.

³⁷ Lapham Lewis: Money and Class in America: Notes and Observations on Our Civil Religion (New York: Weidenfeld and Nicolson, 1988)

³⁸ Trilling, Lionel: The Liberal Imagination (New York: Viking, 1950)

The Information Age promises to fundamentally change within decades our entire economy and payment habits. Whether gradual or cataclysmic, significant worldwide changes are underway in the realm of money. Well-known contemporary management expert Peter Drucker claims: “Every few hundred years in Western history there occurs a sharp transformation. Within a few short decades, society - its world view, its basic values, its social and political structures, its arts, its key institutions - rearranges itself, and the people born then cannot even imagine a world in which their grandparents lived and into which their own parents were born. We are currently living through such a transformation.”³⁹

When no safety net has been prepared, experiencing such an unparalleled shift can be very *frightening*. Just ask any one of the one billion Latin Americans, Asians, or Eastern Europeans who are still reeling from their own very personal encounter with cataclysmic monetary change, that occurred as a direct consequence of a radical shift in power from their governments to international financial markets. James Carville, who directed Bill Clinton’s campaign in 1992, made the remark: “I used to think that if there was reincarnation, I wanted to come back as the President, or the Pope. But now I want to be the financial market: you can intimidate *anybody*.”

Nevertheless, this transition offers us also an *unprecedented opportunity*. When money changes, a lot more changes. Almost everything can become possible. With such a fundamental shift will come the opportunity for innovation far beyond what previous generations could even imagine.

Synthesis of Part One

Money matters. The way money is created and administered in a given society creates a deep imprint upon the values and relationships within that society. More specifically, the *type* of currency used in a society encourages--or discourages--specific emotions and behavior patterns.

Our prevailing system is an unconscious product of the modern Industrial Age worldview, and it remains the most powerful and persistent designer and enforcer of the values and dominant emotions of that Age. For instance, all our national currencies make it easier to interact economically with our fellow citizens than with “foreigners,” and therefore encourages national consciousness. Similarly, these currencies were designed to foster competition among their users, rather than cooperation.

³⁹ Drucker, Peter [The Post-Capitalist Society](#) (Harper Business, 1993) pg. 1

Money is also the hidden engine of the perpetual growth treadmill that has become the hallmark of industrial societies. Finally, the current system encourages individual accumulation, and ruthlessly punishes those who don't follow that injunction.

However, after centuries of an almost complete hegemony of our 'normal' *national* currencies (US\$, Pound, Yen, Deutsche Mark, etc.) as the exclusive means of economic exchanges, the past decade has seen a re-appearance of various forms of *private* currencies.

For starters, up to one quarter of global trade is now done using *barter*: i.e. using *no currency* at all, national or other. Pepsi Cola, for example, ships its profits from Russia in the form of vodka, which it then sells in the US and Europe for cash. The French have built nuclear power stations in the Middle East against payments in oil.

In addition, new forms of *corporate scrip* are taking hold, such as the various frequent flyer systems, wherein in points or "miles" can increasingly be earned with, and used for, services other than airline tickets (e.g., taxis, hotels, long-distance telephone, etc.). These are currencies in the making for the "international traveling elite". Further below the radar beams of officialdom is the remarkable and explosive growth of grass-roots *complementary currencies* already alluded to in Chapter 1.

What does all this mean?

Chapter by Chapter Outline

Money has always been mysterious. For thousands of years the mystery of money was religious in nature. Today, money remains shrouded just as effectively by academic jargon and esoteric equations. This is why in Chapter 2 we start by *elucidating the mystery* surrounding it. We must also understand the main characteristics of our current money system, and why it has been so naturally adopted worldwide during the Industrial Age.

Today's fastest growing economy in the world is the cybereconomy. In 1996, an estimated 20 million Netizens made at least one purchase on the Net, resulting in \$36 billion in sales. Projections by Price Waterhouse for the year 2000 reach \$200 billion. Until recently, almost all payments on the Net have been done by credit card. Credit cards bills are normally paid by checks, a process that falls outside the Net. Hundreds of projects are underway to entirely computerize the traditional national

currencies, as well as the newer forms of private currencies. For instance, the largest merchandiser on the Net, Cendant (1997 sales of \$1.5 Billion), has already started issuing its own “netMarket cash” which is redeemable in over a million goods and services. In Chapter 3, we will show how this can and will transform our societies--to a greater extent than even those introducing the changes may realize.

By exploring contrasting scenarios, in Chapter 4 we will clarify how changes in our current money system could pull our societies in very different direction. Each scenario will depict a world where a different kind of currency has prevailed, and what impact this would have over a period of twenty years.

Before anything else, we need to establish the basics. The Primer that follows delineates the roles of the key players in today’s monetary system--banks, Central Banks, the International Monetary Fund, the Bank for International Settlements--and the recent developments in the global foreign exchange markets. This Primer will also provide you with a reference map necessary to understand the unprecedented changes that are reshaping the money system now and in the foreseeable future, and how such changes will significantly impact your life. If you are familiar with these topics, please feel free to skip the Primer, and go straight to Chapter 2. Otherwise, the Primer will bring you up to speed on how money is created and who controls it, and *how the money world really works*.

For readers who are not familiar with the technical mechanisms at the origin of money, the role of banks, central banks, the International Monetary Fund, The Bank of International Settlements and the recent developments in the global monetary system, it is recommended to read the Primer which is available in Appendix.

This text synthesizes in a fun and readable way how our money world really works, and will bring you up to date in this changing field.

A Primer on How Money Works

[Each page of this Primer is illustrated at the margins as a cut-out from a US dollar Bill]

“Your” Money in Its World

“Money is the crowbar of power”

Nietsche

“The only people who claim that money is not an issue are those who have sufficient money that they are relieved of the ugly burden of thinking about it.” So thought the American writer Joyce Carol Oates. This Primer will explain why *now* even those fortunate few *should* think about it.

Have you ever wondered where your money comes from?

How the value of your money is determined?

Who is *really* in charge of your savings?

To start answering these questions, we need to understand the rules of the global money game, know who the players are and why they act the way they do. In this Primer, you will meet the key actors in our money system, and learn the essentials of the map of the current system that we will refer to later, when we explore the fundamental changes taking place in the system. Never before have monetary issues had such an influence on public policy worldwide, so this is a good time to educate ourselves about what is at stake. All of this *will* dramatically affect your money and your own future as surely as a radical climate change would affect the flowers in your garden.

The starting point is to become aware that “your” money really represents a partnership between you and your country’s banking system. In this chapter, you will learn how banking originated and how any form of storing value (real estate, stocks, bonds and currencies) can be transformed into additional new money by banks.

The cause of the recent series of currency crises (Mexico, Asia, Eastern Europe) will be traced to unprecedented ongoing changes in the global currency markets. Because banks have proven historically to be very fragile institutions, specialized emergency “firemen” or intervention organizations have been created: a Central Bank in each country, and on a global level the International Monetary Fund (IMF) and the Bank of International Settlements (BIS). Their role in managing the growing instability of the global money system will be assessed. We will then return to the initial questions on how all this affects your own money and future.

“Your” Money

“When I was young, I thought that money was important; now that I am old I know that it is,” was Oscar Wilde’s view. Perhaps you have come to the same conclusion. Whatever you want to do with your life, you will invariably require *some* money to achieve it. Money is a most convenient medium of exchange, certainly more convenient than its barter alternative, as the story of Mlle Zélie illustrates (see sidebar). However, your money is never really “yours” in the same sense that you own your eyes, your hands or your car or home, once all the payments have been made. “Your” money is more like “your” marriage: another party--your husband or wife--is intrinsically involved in the arrangement.

Modern money is also a bipartisan agreement. It is an asset to you only because it is someone else’s liability. And the modern banking system has been the necessary counterpart of such “credit-money.”

Mlle Zélie’s paycheck⁴⁰

Mlle Zélie, a French opera singer on a world tour during the 19th century, gave a recital in the Society Islands. It was a great success, and for her fee she received one-third of the proceeds. By the way, some things do *not* change: this is still what Placido Domingo takes home from a performance.

But Mlle Zélie’s share consisted of three pigs, twenty-three turkeys, forty-four chickens, five thousand coconuts and considerable quantities of bananas, lemons and oranges. Unfortunately the opera singer could only consume a small part of the total and (instead of declaring a public feast as would be local custom) found it necessary to feed the pigs and poultry with the fruit. A handsome fee ended up going to waste.

⁴⁰ Jevons, William Stanley Money and the Mechanism of Exchange (London, 1875)

How does Banking Work?

The first party to whom you need to be introduced is therefore your bank, *not* because that is where you keep your money, but because that is where your *money is created*.

How Did Banking and “Modern” Money Start?

During the late Middle Ages, gold coins were the highest denominated currency. Goldsmiths were considered most qualified to check the purity of these coins. Even more important, they owned strongboxes for keeping the gold safe from thieves. So it became a prudent practice to give gold to the goldsmith for safekeeping. The goldsmith would give a receipt for the coins and charge a small fee for the service. When the owner needed to make a payment, he or she would cash in the receipt and the goldsmith would pay out the coins. After a while, it became more convenient and safer to make payments by just using the receipts. If the goldsmith was known by everybody to be a trustworthy fellow, why take the risk of moving the physical gold? The goldsmith receipts soon became *tokens for a promise to pay*. So that

Non-Western Money Innovations

This Primer focuses on Western money and practices, not because they were historically the most advanced or important, but because the current world system is a direct evolution of these Western institutions. But the West was really quite a latecomer in this domain.

For instance, the earliest samples of writing date from 3200 BC in the Sumerian city of Uruk and describe deposit banking, “foreign exchange” transactions, secured and unsecured lending both locally and with neighboring city-states. The first official banking laws were part of the Code of Hammurabi (around 1750 BC). The oldest private bank whose full name has been preserved is the “Grandsons of Egibi” incorporated in Babylon in the 7th century BC. These Babylonian banks, “by the detailed organization, by the number of branches and employees, by the daily records and accounts kept of the capital invested in them, may well be compared with the greatest banks of the nineteenth and twentieth centuries AD.”⁴¹

The first “modern” style paper currency was issued in China during the reign of Hien Tsung (806-821 AD) as a temporary substitute for the traditional bronze coins.⁴² Paper money was quite commonly in use in China by 900 AD, and in 1020 that country had also attained the dubious honor of living through the first hyperinflation in paper currency, as excessive paper money had been issued for a total of 2,830,000 ounces of silver in nominal value. “A perfumed mixture of silk and paper was even resorted to, to give the money wider appeal, but to no avail; inflation and depreciation followed to an extent rivaling conditions in Germany and Russia after the first World War.”⁴³ The first time the West heard about paper currency - with total disbelief - was through Marco Polo who was in China from 1275 to 1292. “In this city of Kanbalu is the mint of the grand khan, who may truly be said to possess the secret of the alchemists, as he has the art of producing paper money... All his majesty’s armies are paid with this currency, which is to them the same as if it were gold or silver. Upon these grounds, it may certainly be affirmed that the grand khan has a more extensive command of treasure than any other sovereign in the universe.”⁴⁴ Kublai Khan’s paper currency became also one of the first world currencies as it was accepted at its maximum extension from mainland China to the Baltics, almost 500 years before the practice became widespread in Europe.

⁴¹ Heichelheim, F.M. *An Ancient Economic History* (Leiden, 1958) Volume III pg 122

⁴² Davies, Glyn: *A History of Money from Ancient Times to the Present Day* (Cardiff: University of Wales Press, 1994) pg 180

⁴³ Goodrich, L.C: *A Short History of the Chinese People* (London, 1957) pg 152

⁴⁴ Dent, J.M. *The Travels of Marco Polo* (London, 1908) chapter XVIII of original text, pg 202-205 in translation.

whenever someone accepted the token as payment, they were implicitly entering into a loan agreement with the goldsmith. Thus we gradually shifted from money based on commodities, in this case gold, to money based on credit or a bank loan. This is the arrangement that remains today.

Soon the most successful goldsmiths noticed that the bulk of the coins stayed in their strongboxes most of the time. Thus, one enterprising goldsmith observed that he could issue receipts in excess of the gold coins he stocked, because the depositors would never retrieve all their coins at the same time. In this way, he could increase his income without having to increase his gold reserves. So it was that European paper currency and “modern” banking were born simultaneously on the goldsmith benches of 13th century Italy; and why the word *bank* derives from *banco*, the Italian bench where those early transactions took place.⁴⁵ All the key ingredients were already there: paper money as a counterparty’s liability, the importance of a good reputation for that counterparty and, what is now called “fractional reserve system.” The latter’s intimidating label belies the simple process it represents of enabling the banking system to create more money than the deposits it holds.

The Secret of “Modern” Money

The secret to creating money is being able to persuade people to accept one’s IOU (a promise to pay in the future) as a medium of exchange. Whoever manages that trick can derive an income flow from the process (e.g., the medieval goldsmith fees, or, today, the interest on the loan that creates the money). Such income is called “seigniorage,” a word derived from the right of the Lord of the manor (“*Seignior*” in Old French) to impose the use of his currency on his vassals.

As the nation-states became the powers-that-be, a deal was struck between the governments and the banking system. The banking system obtained the right to create money as “legal tender”⁴⁶ in exchange for a commitment to always provide whatever funds the government needed. The longest surviving agreement of this kind can be traced back to 1668 with the license of the “Bank of the Estates of the Realm” in Sweden (whose name was changed in 1867 to *Riksbank* as the Swedish Central Bank is still known). The model was copied in Britain, a generation later at the founding of

⁴⁵ Durban, Charles F. “The Bank of Venice” *Quarterly Journal of Economics* Vol 6 number 3, April 1892

⁴⁶ “This note is legal tender for all debts public and private” is written on every US\$ bill. What this means in practice is the following: if you owe someone money and she refuses your offer to pay with US\$ bills, you can walk away and simply declare the debt void. If needed, the courts will back you in such a declaration.

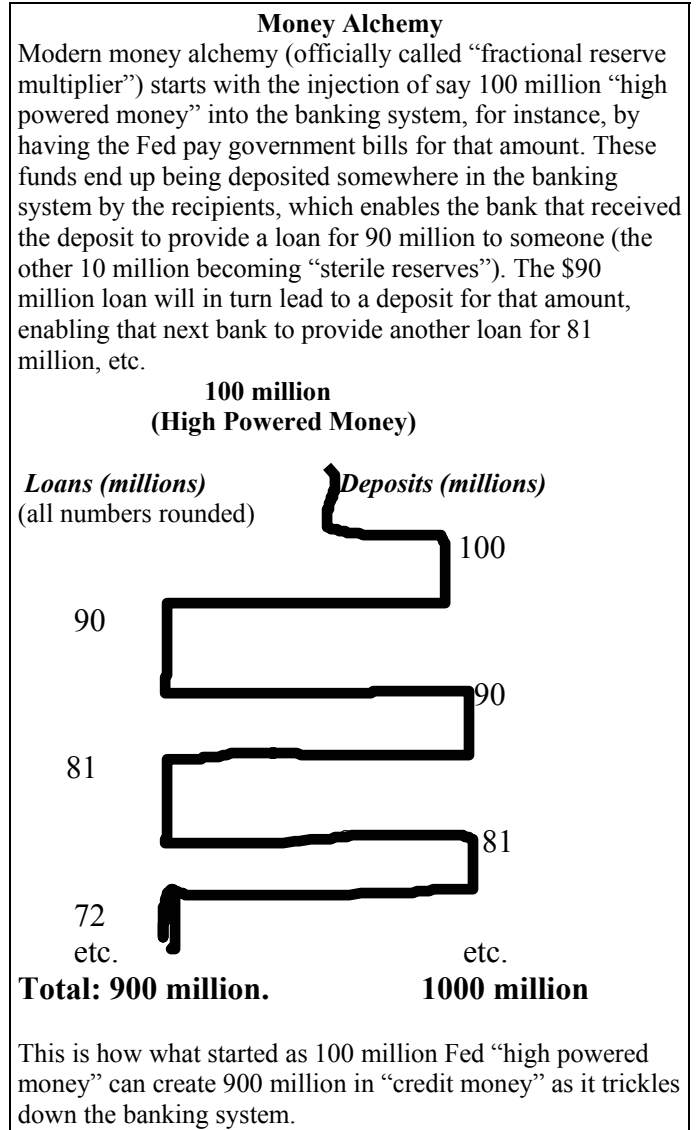
the Bank of England (1688)⁴⁷ from where it spread around the world. The Little Old Lady from Threadneedle Street, as the Central Bank is referred to in the City of London, “is in all respects to money as St. Peter’s is to the Faith. And the reputation is deserved, for most of the art as well as much of the mystery associated with the management of money originated there.”⁴⁸

For the US, this same deal--money as bank credit for the guarantee that governments would always get the money they want--was part of the Federal Reserve Act of 1913. That is why the US Federal Reserve Bank accepts any government bond that the public does not buy, against which it issues a check for the corresponding amount. This check pays for the government’s expenses, and in turn the recipients deposit it in their own bank accounts.

⁴⁷ To be more accurate, while the Charter of the Bank of England dates from 1688, the *monopoly of emission of paper money* was assigned by King William of Orange to that institution only in 1694, when he urgently needed an additional 1.2 Million Pound for a war against the French. In the case of Sweden, the power of emission had similarly be transferred to the Bank of the Estates of the Realm when the crown needed urgent money to fund a war against Denmark. While the introduction of paper money made the transfer of the power of emission of money from sovereigns to banks possible, the proximate cause of that process was war.

⁴⁸ Galbraith, John Kenneth :Money: Whence it Came, Where it Went. (London: André Deutsch, 1975).

That is when the magical “fractional reserves” come into play. For every deposit that any bank receives, it is entitled to create new money, specifically, in the form of a loan to a customer of up to 90% of the value of the deposit.⁴⁹ That new loan--for example, a mortgage that will enable you to buy a house--will result in the seller of the house making a new deposit somewhere else in the banking system. In turn the bank receiving that deposit is entitled to create another loan for 90% of that new deposit; and so the cascade continues from deposit to loan down through the banking system. What started as a \$100 million check issued by the Federal Reserve (called “high powered money”), by the time it works its way through the commercial banking system, has enabled banks to create up to \$900 million of new money in the form of loans (see sidebar). If you understand this “money alchemy” you have understood the most arcane secret of our money system.



This is the convoluted mechanism by which the deal struck between governments and the banking system is implemented, and why “your” money ultimately involves the entire banking system of your country. Money and debt are therefore literally the two sides of the same coin. If we all were to repay all our debts, money would disappear from our world, because the entire process of money creation illustrated in the “money alchemy” would reverse itself. Reimbursing all the loans (the left

⁴⁹Because the regulations specify that only 10% of a deposit need to be kept as “reserves” in case the customer withdraws the funds. Therefore up to 90% is available to make new loans. Changing that percentage is one of techniques whereby the Fed controls the quantities of credit money the banks will be able to create. The exact percentages also vary with the kind of deposit made: the longer the term of the deposit, the lower the percentage of “reserves” are required. The 90% rule of this example, enabling a “multiplier” of about 9 to 1 is an illustrative average.

side of the graph in the sidebar) would indeed automatically use up all the deposits (on the right side). Even the Fed's high powered money would evaporate if the government were able to repay its debts.

“Old” and “New” Banking

In his classic book, *The Bankers* (1974)⁵⁰, Martin Mayer recounts the following true story. A man was honored for 50 years of loyal service to a Virginia Bank. At the party celebrating his long service, he was asked what he thought had been “the most important change that he had seen in banking in this half century of service?” The man paused for a few minutes, then went to the microphone and said “air conditioning.” In his 1997 follow-up book *The Bankers: the New Generation*, Mayer notes: “Twenty years later, this story is prehistoric. It's still funny, but it's incomprehensible. In these twenty years, banking has changed beyond recognition.Almost nobody who has a job in a bank today works as his predecessors worked as recently as twenty years ago.”⁵¹

Banking has indeed changed more in the past 20 years than it has in hundreds of years. The 1970 US bank holding company law still defined a bank as an institution which “agglomerates the transaction balances of a community to lend it at interest to its commercial enterprises,” a definition quite consistent with Adam Smith's two centuries earlier. It is also, at its core, the same “banking” business that the Babylonians and the Italian goldsmiths had started on their benches when they too gathered local savings and lent them out to businesses for a fee.

Today there are few such banks. Most surviving banks are involved in different businesses. In 1996, almost 85 % of the banking industry's resources came from sources other than insured deposits. Instead of loans to businesses, credit card loans to consumers are the lifeblood of the largest banks (Citicorp makes more than \$2 billion per year in this business--more than half its profits). In short, banks take their money where they can find it and use it for whatever activity the law allows that looks profitable. They have abandoned traditional banking and entered the “financial services”

⁵⁰ Mayer, Martin *The Bankers* (New York: Weybright and Talley, 1974) pg. 16

⁵¹ Mayer, Martin *The Bankers: the New Generation* (New York: Truman Talley Books/Dutton, 1997) pg. 16 and 19.

business. The deeper reason for this unprecedented shift is the impact of the Information Age. It has fundamentally transformed competitive factors in the credit markets.

Credit Markets

Mayer notes that in the “olden days” of 20 years ago, “banks used to fancy themselves as advisors to their clients.” In actuality, they simply took advantage of the monopoly they had over financial market information. When computers suddenly made it possible for *anybody* to have direct access to financial market quotes, the ground shifted under their feet. Many corporations used this access to issue their own commercial paper, bypassing the commercial banks in the process. For instance, General Motors Finance Corporation (GMFC) issues its own “commercial paper” (i.e. short term borrowing in the form of notes that raise capital directly in the capital market), and then lends it out to consumers who buy General Motors cars. The largest financial lender in the US today is not a bank; it is General Electric Capital which completely finances itself without a penny of bank loans.

Traditional banks did not cope well with this massive change. Since 1980, over one-third of US banks have merged or disappeared in the turmoil that ensued. Even those that remain have shrunk their staff dramatically. “Banking hours” are now history. The proliferation of Automatic Teller Machines (ATMs) has taken care of that and eliminated some 179,000 human teller jobs (37% of US banks’ work force) over just one decade (1983-1993). This adaptation is still going on according to Andersen Consulting Company: technology will displace another 30 to 40% of all jobs in commercial banking and thrifts over the next seven years. Deloitte, Touche in a 1996 study is even more drastic: it estimates that another 50% of present bank employees will be history within five years. Even all of this does not fully take into account the impact of the second wave of computerization which has just begun--the Internet revolution--the creation of a new cybereconomy and a whole new world of Open Finance (described in Chapter 3).

Credit Cards

Credit cards started as a convenience for the purchase of gasoline, frequent oil changes and repairs needed in the early automobiles in America. They were issued by oil companies to encourage brand loyalty--exactly as the airline industry is doing today with Frequent Flyer miles.⁵² In 1949, Diners Club created the first modern "charge card" on the back of which it proudly listed *all 27* restaurants "the finest in the country" where the card was accepted. As in Bellamy's time trip, they were in pasteboard (see sidebar). In 1955, Diners Club switched to plastic.⁵³ By 1958, the Bank of America and the American Express Company, which had already established itself as "the traveler's check company," each launched their own plastic credit cards. BankAmericard was relaunched as the VISA card alliance after a major reorganization in 1971. Twenty years later, VISA involves no less than 20,000 financial institutions all over the world, 400 million card members and an impressive \$1.2 trillion in annual turnover. Although it is the biggest, this is only one of the thousands of credit card systems that have proliferated around the globe. Most significantly, a whole new way of lending money into existence has been created.

Magic Money

A man fell asleep on May 30, 1887 and woke up on September 30, 2000. Among the most amazing things he discovered was that Americans still counted in dollars and cents, but paid for everything in large mall-sized warehouses with "pasteboard credit cards." This is the starting plot of a novel published in 1888 by Edward Bellamy entitled *Looking Backward: 2000-1887*. Novelists will invent the craziest things...

Interest rates applicable to credit card loans are much higher--often a multiple--of what banks would be able to obtain from normal business or consumer loans. This is what made this form of creating money irresistible to the issuers. Between 1993 and 1997, the number of card solicitations mushroomed from 453 million to 881 million *per quarter*, that's *nine solicitations for each US household every 13 weeks*. Credit card debt outstanding in the US also grew to more than \$350 billion by mid-1996. Debt service as a percent of disposable income now stands at 18%, which is even higher than in recession times.⁵⁴

⁵² I will show that Frequent Flyer Miles are gradually becoming a private currency ["corporate scrip" in the jargon]. Are frequent flyers .one of the currencies of the future?

⁵³ Moore, Carl H. And Russell, Alvin E. Money: Its Origin, Development and Modern Use (Jefferson NC: McFarland, 1987) pg 74

⁵⁴ Schor, Juliet B. The Overspent American: Upscaling, Downshifting and the New Consumer (New York: Basic Books, 1998) pg. 19.

However, making it so easy to obtain credit has predictably also reduced the standards of credit-worthiness, i.e. the verification that the card-holder will have the income flow necessary to service that debt and those high interest rates. Economics Professor Lawrence Ausubel of the University of Maryland has found that the rise in personal bankruptcy parallels exactly the rise in credit card solicitations. This is why there were 1.3 million credit card related personal bankruptcies in the US in 1997, up 40% from 1995. And this is during a boom economy! Legislation passed by Congress during the Summer of 1998 has aimed at making it more onerous for individuals to declare personal bankruptcy, but has not tightened the conditions at which banks themselves can issue the cards. In any case, the unprecedented levels of US consumer bankruptcies indicates that credit cards will not remain a path for future growth in the banking industry.

There may still remain some credit card growth potential by going international. For instance, the most remarkable extension of credit cards is in China, where even state enterprises pay their bills by MasterCard via satellite with supercomputers located in Shanghai and Singapore, so that Beijing can keep a tab on all state enterprise payments in real time.

This is how--in less than one generation--banks came to abandon their century-old practice of providing credit to businesses, and replaced it with consumer credit cards.

Your Savings: Storing Value

Now that you have obtained your hard-earned money, how can you preserve it for the proverbial rainy day? This is important not only for you personally. Whatever form the storage of value takes, it also becomes potential collateral for any additional bank-debt money that can be created, as seen above in how the banking system works.

Contrary to what some people believe, money itself is *not* a good store of value. At best it is “a temporary abode of purchasing power,”⁵⁵ a way to keep value in the short-term between the moment you receive income and when you spend it. If you stuff money under your mattress as savings, or even leave it in a bank account, the following inflation scorecard should warn you.

⁵⁵ Friedman, Milton “Quantity Theory of Money” in Money (New York, London: W.W.Norton “The New Pelgrave”, 1989) pg. 15.

A Scorecard

The clearest way to see what has happened to the value of your money is to look at what it purchases on a day-to-day basis. In recent years, most major currencies have kept enough of their value so that some people even claim that currency depreciation (“inflation” in the jargon) is now dead forever. However, before accepting such a conclusion, it is worth examining this issue over a longer time period, say twenty-five years.

Let us look at the scorecard. For example, consider the performance over two decades of the Deutsche Mark, the world’s most “stable” currency since the World War II. If you had kept 100 Deutsche Mark since 1971, the following table shows its purchasing power would have shrunk to 42.28 DM by end of 1996.⁵⁶ In other words, even the best performing currency in the world lost more than half of its value in that period.

Table P.1: What is your money worth?

<i>If you live in this country</i>	<i>The 1996 value of your currency is (1971 =100)</i>	<i>Ranking out of 108 major world currencies</i>
Germany (Deutsche Mark)	42.28	1
Switzerland (Swiss Franc)	39.79	3
Japan (Japanese Yen)	33.24	11
United States (Dollar)	24.72	17
Canada (Canadian Dollar)	22.26	23
France (French Franc)	19.48	31
Australia (Australian Dollar)	15.11	46
United Kingdom (Pound Sterling)	12.57	55
Italy (Lira)	8.65	68
Spain (Peseta)	7.77	69

⁵⁶ Source of data from 1970 to 1990 from Table P.1 Deane, Marjorie and Pringle, Robert *The Central Banks* (New York: Viking, 1995) pg. 352-354, completed with the International Labor Office *Monthly Bulletin of Statistics* from 1990 to 1996.

Mexico (Peso)	0.066	101
Brazil (Cruzeiro-Cruzado-Real)	0.000	108

Similarly, in 1996, 100 Swiss Francs would be worth only 39.79 SF from 20 years earlier. The purchasing power of 100 US\$ is just over 24.72 US\$; and 100 British Pounds, 12.57 Pounds, and so on.

In practice, this means that a house bought in 1971 for \$247,200 and valued two and a half decades later at \$1 million has not appreciated by one penny. Its price merely kept pace with inflation.

Sometimes, inflation can get really out of hand, with devastating consequences for the societies which experience them (see sidebar).

Managing savings intelligently therefore boils down to allocating cash between the three classical major asset classes: real estate, bonds, and stocks. Over the past decade, another major asset class has appeared that is of particular interest to us: currencies. A few words about the changing role of each asset class over time puts this development into perspective.

Money Troubles End Empires

Money can go wrong in different ways, the worst one being hyperinflation, the extreme form of inflation when currencies become practically valueless. Social disorder, even collapses of Empires have been the outcome whenever the cost or prestige of an Empire made it issue too much money, thereby provoking hyperinflation in its currency.

Sumer, the oldest city empire historically well documented, collapsed when continuous warfare with its neighbors provoked hyperinflation in 2020 BC. After Alexander the Great's death, as vast treasure looted from Persia was brought back home, hyperinflation resulted and destroyed the once-mighty Greek Empire. The same thing happened 2000 years later, with the Spanish Empire, when the gold and silver looted from the New World was imported back to Spain.

Hyperinflation is still a scourge in many countries. Among the more extreme examples during this century : Germany in the 1920s, Latin America in the 1970s and 1980s, Yugoslavia in 1989-91 and Russia in 1991-92 and again in 1998. In all these cases, hyperinflation invariably provoked serious social and political disruptions.

Real Estate

From the beginning of the Agricultural Revolution until last century, real estate, particularly land, was the dominant form of savings available in the world. The wealth of individuals could usually be evaluated by the quality and the size of the real estate they had accumulated. This all changed with the Industrial Age when stocks and bonds in commercial enterprises became a favorite investment vehicle. Today, most people's real estate holdings are limited to their house, and typically even that is mortgaged.

Stocks

A stock is a fraction of ownership in a business. Contrary to most people's perception, it is a very old investment instrument. (See sidebar). More recently it has become the norm for even small savers to have the bulk of their liquid assets in the stock markets. Notably, the only other period during the 20th century in which this was prevalent was in the 1920's. However, during this past decade, all stock exchanges around the world have become much more intimately interlinked. There used to be a theory that by diversifying geographically it was possible to decrease stock investment risks. This theory was blown out of the water in the simultaneous global stock market panic of 1987 which demonstrated that it has become harder to reduce risks through global diversification. Even if you only invest in domestic stocks, today the message is: think globally *and* act globally, for everything is impacted by global events.

What stock is new under the sun?

The earliest stock offerings date back to seafarer and caravan trips lost in the mist of time. They were already practiced among the Phoenicians in antiquity, and became openly tradable among the general public in Venice and Genoa by the 13th century. "Men and women from all ranks of life owned shares. ...They were regarded as particularly good security for one of the favorite forms of investment across the sea, the sea loan...which was repaid only if the ship arrived safely."⁵⁷ The oldest currently still functioning public stock exchange, dealing in all manner of corporate stocks, is the one in Amsterdam, dating from the 17th century.

Bonds

A bond is a loan to the organization on whose behalf it was issued. It is a promise to pay the loan back at maturity. By purchasing a bond, one gives up liquid cash in exchange for that promise. The key feature that justifies doing so is the payment of interest on a periodic basis. "Usury," or charging interest, has been frowned upon since their founding by all three religions (Judaism, Christianity and Islam) that have followed the Book of their beliefs as revealed by God.. Only Islam has remained true to the tradition of non-usury to this day. Henry VIII, after his break with Rome, legalized interest in Britain for the first time in 1545. But it was not until the 18th and 19th centuries that this investment option displaced real estate in people's portfolios. This was true even in Protestant countries. The

In Bonds we Trust

Bonds presuppose a public trust in the long term future of the value of the currency in which they are denominated. Therefore the length to maturity of a bond gives some idea about the level of confidence people have in the future of that currency. The "champions" of such long term trust are the Dutch "dike-building-bonds" which have no expiration date, and on which interest has been paid faithfully since the 16th century. In 1903, the British government could afford to issue 300 year "gilts" at 2.5% interest. Compare that with today's "long" bonds of 30 years maximum and % interest.

⁵⁷ Byrne, E.H. Genovese Shipping in the 12th and 13th Century (Cambridge, Mass: Mediaeval Academy of America, 1930) pg 14.

Catholic church “forgot” about the sin of usury only towards the end of the 19th century, thereafter including bonds or any other form of interest-bearing loans even in ecclesiastical portfolios.

Currencies

Historically, for some specialists, such as moneychangers and banks operating internationally, currency has always been a significant type of asset. Any modern global portfolio has also, by definition, a currency component (e.g. holding a Japanese bond or stock means automatically having a position in Japanese Yen). So holding positions in currencies by themselves has become a logical extension.. It has now become a significant factor in most professional investors’ portfolios.

Something extraordinary has been happening over the past decade: the currency market has become the biggest single market in the world. Foreign exchange transactions (purchases and sales of currencies) today dwarf the trading volume of all other asset classes, even of the entire global economy. As a result, currency markets are becoming vitally important to almost everyone for the first time in recorded history--although it is probable that the majority of people are still quite unaware of this.

Foreign Exchange Markets

If you have traveled anywhere abroad, you have dealt in the foreign exchange market. You went to a bank or money exchange office and exchanged your little bits of paper against more exotic looking local bits of paper. The day after someone invented money, her neighbor must have started a money exchange. So what could be new in foreign exchange markets? Actually, quite a lot.

The first sign that something different is afoot is the sheer volume of currency transactions. Back in the prehistoric days of the 1970s, the typical daily volume of foreign exchange transactions, worldwide, fluctuated between \$10-\$20 billion. By 1983, that had risen to \$60 billion. By 1998, that daily volume had reached a staggering \$1.5 trillion⁵⁸ and the *estimate for a “normal” day in 2000 is about \$2 trillion.*

⁵⁸ Bank of International Settlements (BIS): Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity (September 1998)

Mere mortals like us lose a sense of proportion when confronted with such numbers (see quiz question in sidebar). Let us put this into perspective. Such volume amounts to *over 150 times the total daily international trade* of all commodities, all manufactures and all services worldwide. It is in the order of *100 times the daily trading of all equities* in all the stock markets around the world. It is even *50 times greater than all the goods and services produced per day (GDP)* by all the industrialized countries. Furthermore, the volume of foreign exchange transactions continues to grow at a breakneck rate of 20-25% per year, compared to an average 5% annual growth for global trade. It is fair to conclude that something *very* unusual is going on in the global foreign exchange markets, something that we have never experienced before.

Cartoon by Bramhull
"Borderless Money"

The Global Casino

What happened is that "speculative" trading (i.e. trading whose sole purpose is to make a profit from the changes in the value of the currencies themselves) has all but taken over the foreign exchange markets. In contrast, the "real" economy (i.e. transactions relating to the purchase and sale of real goods and services abroad, including portfolio investments) has now been relegated to a mere side-show of the global casino of the speculative monetary exchange game.

The following graph (Figure P.2) illustrates this complete reversal in importance between the "real" and the speculative transactions. At this point, *98% of all foreign exchange transactions are speculative, and only 2% relate to the real economy.*⁶⁰

⁵⁹ Answer: None of the above.

2 trillion seconds bring us back to a time 10 thousand times older than the Neolithic period (5,000 BC); even 1000 times older than Cro-Magnon (40,000 BC). Your printing press would have had to be started by some Cretaceous dinosaur. To be precise, two trillion seconds are equivalent to a bit over 63,418,500 years!

⁶⁰ These statistics are derived from the total daily foreign exchange transactions as reported every three years by the BIS, and compared to Global Annual Trade divided by the number of days. Some of the foreign exchange transactions are double counted, because a bank may not want to keep on its books particularly large client currency positions, and therefore offset them in the market. So that one single original speculative transaction can generate others. I know of no reliable statistic about the exact extent to which this occurs. But even if *all* speculative foreign exchange transactions

Quiz Question

Assume that you have a printing press in your garage that produces dollar bills at the rate of *one per second*. When would this printing press have to be started for it to produce the two trillion dollars worth of a typical foreign exchange market day? During World War I, the American Revolution, at the birth of Jesus Christ, the Neolithic, or Cro-Magnon? Answer: see footnote⁵⁹

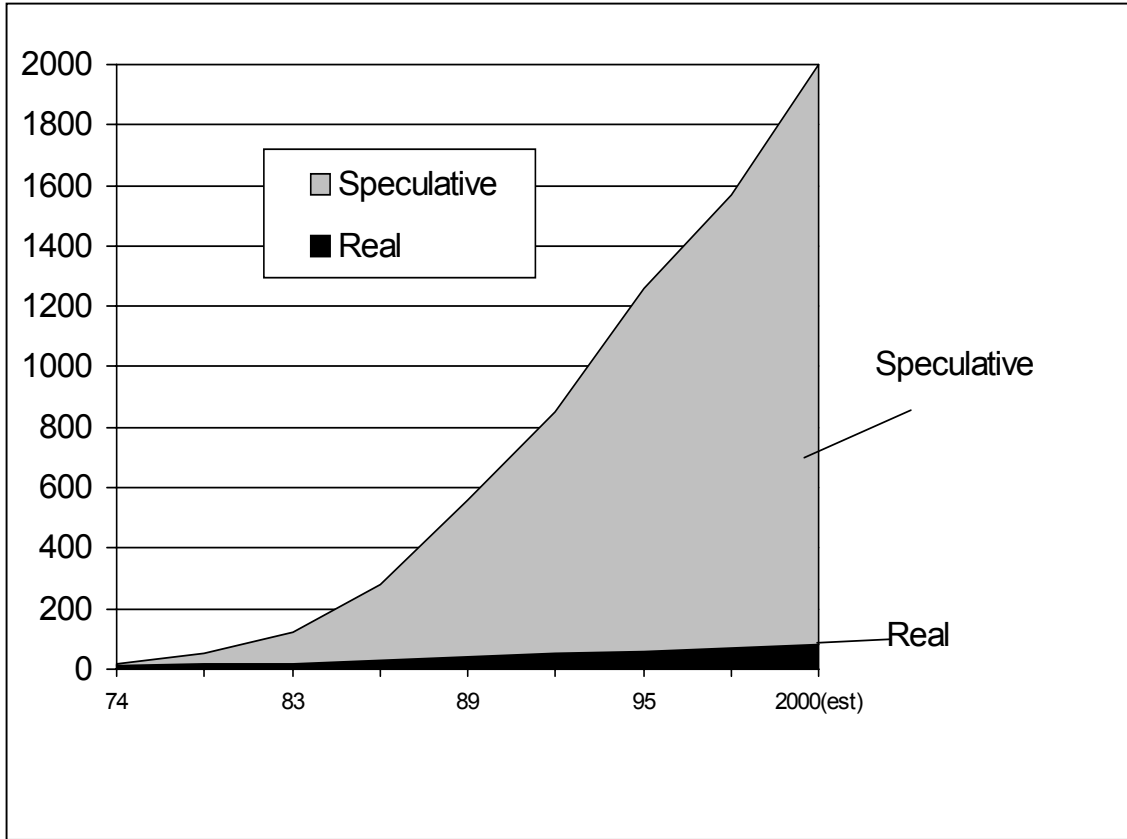


Figure P.2 Daily Total Foreign Exchange Transactions as Reported by the Bank of International Settlements (BIS) versus Foreign Exchange Transactions based on “Real” Economic Exchanges.

Speculation can play a positive role in any market: theory and practice show that it can improve market efficiency by increasing liquidity and depth⁶¹ in the market. But current speculative levels are clearly out of balance. “Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely

were double counted, bringing the total volume of *original* speculative transactions down to one trillion, the percentages would change to 96% speculative and 4% “real” instead of 98% versus 2%. My argument would still remain valid. Furthermore, the volume of speculative activity doubles now every three years, so that eliminating double counting just moves the time line up a few years.

⁶¹ “Liquidity” and “Depth” of a financial market refers to the possibility of moving large volumes of money without significantly affecting prices. In a deep market, a lot of people are buying and selling. By contrast, in a thin market, because fewer people are trading, even one single large transaction could significantly affect prices.

to be ill-done.”⁶² Although over half a century old, John Maynard Keynes’ opinion has never been as appropriate as it is today. Furthermore, currencies have now become the ideal speculation tool (see sidebar).

The bulk of the speculative volume is due to banks’ own currency trading departments. However, it is predictable that the hedge funds -- mutual funds specializing in currency speculation -- will be the ones that will bear the brunt of the public relations backlash if a global meltdown occurs, as they are the “last kid on the block.” In all financial crisis--from the Dutch tulips in 1637 to the US stock market crash of 1987--it is invariably the last financial innovation which gets the brunt of the blame.⁶³

Currencies: an Ideal Speculation Tool?

As a tool for speculation, today’s foreign exchange markets offer some very useful features compared to any other asset class:

- A 24-hour very liquid market: this is the most liquid of all asset classes (more liquid than bonds or stocks whose trading is limited to local market hours, and more liquid than real-estate).
- Very low transaction costs: buying or selling a currency in volume is far cheaper than buying stocks, bonds or real estate. The only cost is a small spread between buy and sell in foreign exchange, which locks in the bank’s profits.
- Depth of the foreign exchange market: when professional investment managers have a large amount of money to place, buying a stock will drive up the price of the stock. Similarly, when they will sell this stock, again their own trade will make the market move against them. No such problems in foreign exchange: the depth of the currency markets is such that even billions of dollars won’t make a blip.

Figure P.3 provides a synthetic overview of the currency flows which triggered three crises between 1983 and 1998. A monetary crisis can be seen as the result of a sudden ebb of the global cashflow out of the target country, brutally reversing an earlier inflow. .

⁶² Keynes, John Maynard The General Theory of Employment, Interest and Money (London, Macmillan, 1936) pg 159

⁶³ In the Dutch tulipmania of 1637 the existence of future contracts was blamed. In the 1929 the Trusts, in 1987 computer programmed trading. What is common to all in all these cases is that these were simply the latest financial innovations of the time. A deeper explanation, applicable to *all* major financial crashes of the past 350 years, will be provided in The Mystery of Money: Beyond Greed and Scarcity

Money's Global Tides and Ebbs (US\$ Billions)

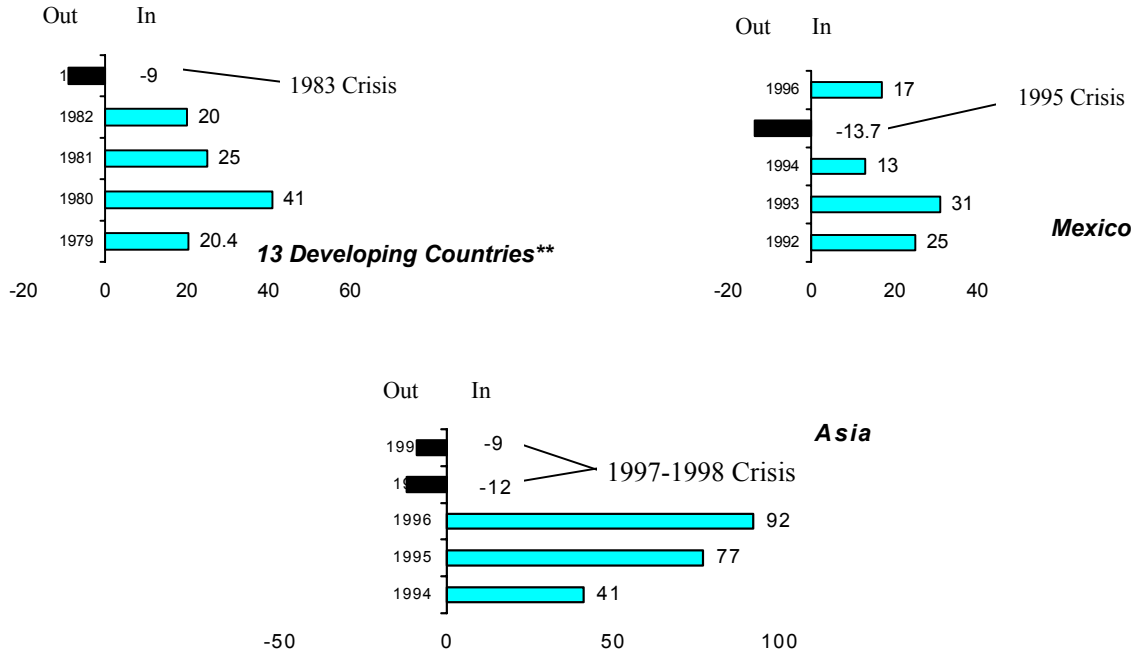


Figure P.3 Money's Tides and Ebbs and the Resulting Monetary Crises (1983-1998) (Billions of US\$)⁶⁴

(** "13 developing countries" include Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Ivory Coast, Nigeria, Mexico, Morocco, Paraguay, Peru and Venezuela)

Notice that the scale of the swings between monetary high and low tides keeps growing -- they mirror the increase of speculative flows that was shown in Figure P.2. It took 13 countries in 1983 to produce a swing of around \$30 billion between the last inflow and the outflow. Mexico by itself was hit by a similar swing in 1995. Barely three years later, the Asian crisis saw a swing of well over \$100 billion between 1996 and 1997. These swings are the consequence of massive speculative activity.

⁶⁴ Source Eisworth, Peter in *The New York Times* (February 16, 1999) pg A1A. Extracted from article by Kristoff, Nicholas D. & Sanger, David E "How US Wooed Asia to Let Cash Flow in".

Why does speculation on currencies happen?

This extraordinary build-up of speculative activity can be explained by three cumulative changes over the past decades:

1. **A Structural Shift:** On August 15, 1971, President Nixon disconnected the dollar from gold, inaugurating an era of currencies whose values would be determined predominantly by market forces. This gave rise to a systemic change in which currency values could fluctuate significantly at any point in time. This was the beginning of the “floating exchanges” and a market that would prove highly profitable for those who know how to navigate in it.
2. **1980s Financial Deregulation:** The governments of Margaret Thatcher in the UK and Ronald Reagan in the US embarked simultaneously on a massive financial deregulation program. The Baker Plan (a reform package named after the then US Secretary to the Treasury, Mr. Baker). imposed a similar deregulation in 16 key developing countries in the wake of the developing countries’ debt crisis. These deregulations enabled a much larger array of people and institutions to become involved in currency trading than would have previously been possible.
3. **Technological shift:** In parallel to the above, the computerization of foreign exchange trading created the first 24-hour fully integrated global market ever. This shift raised to a whole new level the speed and scale with which currencies could be moved around the world.

During his survey of 5,000 years of money’s history, Glyn Davies identified electronic money as one of only two exceptionally important technological innovations in money. “There have been two major changes, the first at the end of the Middle Ages when the printing of paper began to supplement the minting of coins, and the second in our own time when electronic money transfer was invented.”⁶⁵ We know in retrospect that the first change enabled banks to take away from ruling sovereigns the lead role in money creation, but what will the second change create?

A titanic struggle has begun in relation to the control of emerging forms of money. Banks are now acting mostly like computerized telecommunications companies. But companies involved in telecommunications, computer hardware and software, credit card processing, Internet shopping, even cable television, have also discovered that they can perform many of the services of the banks. Whoever wins control over the new electronic money systems will ultimately be endowed with the

⁶⁵ Davies, Glyn [A history of money from Ancient Times to the Present Day](#) (Cardiff, University of Wales, 1994) pg 646

power to issue money. As the banker Sholom Rosen claimed: “It’s definitely new, it’s revolutionary - and we should be scared as hell.”⁶⁶ If well-informed bankers get scared of the scale and speed of money changes, what should the rest of us do?

Derivatives

Besides *revolutionizing banking* and *accelerating the movement* of currencies, computers have also played another role in the foreign exchange markets: they made possible the explosive development of a whole new wave of financial products, generically called “*derivatives*.”⁶⁷ Derivatives make it possible to unbundle each piece of financial risk, and trade each one separately. Charles Sanford, ex-chairman of Bankers Trust and one of the pioneers of the business, described derivatives as building a “particle theory of finance.”

For example, a Japanese Yen bond can be unbundled in at least three pieces of risk: a currency risk (the risk that the Yen drops in value against your own currency), an interest rate risk (the risk that Japanese interest rates go up after you purchase your bond), and an issuer risk (the risk that the company issuing the bond defaults on the bond). Derivatives enable an investor to select exactly which component of those risks they want to include or exclude from their portfolios.

Imagine that instead of buying a ticket to a concert or opera, you suddenly have the capacity to separately select and combine for yourself your favorite soprano, your favorite tenor, your favorite violinist, conductor, and so on, all interpreting your favorite compositions. If you know what you are doing, the result of this new freedom could be quite extraordinary and superior to what you can get in a normal “pre-packaged” performance. However, if your knowledge is limited, your personal

⁶⁶ Quoted by Weatherford, Jack The History of Money (New York: Crown Publishers Inc.) pg 264

⁶⁷ The main types of currency derivatives are futures, forwards and options, whose technical definitions are:

- Futures: A currency futures contract is an agreement to buy or sell a currency at a specified time and place (a commodity exchange) in the future at a specific price agreed to today.
- Forwards: Similar to Futures, except that the price is today’s price and the contract is not traded on an exchange but directly with one specific financial institution (“Over the Counter”).
- Options: A currency option is the right, but not an obligation to buy (“call”) or sell (“put”) a currency at a specific price. The development of the options market is credited to the theoretical breakthroughs by Professors Robert Melton and Myron Scholes in option pricing, for which they were honored by a Nobel Prize in June 1997.

These instruments are the building blocks whose combinations enable the transfer of many risks. Some of these combinations [“exotics”] can become quite complex.

All these instruments also exist for commodities other than currencies, but the volume of currency derivatives particularly of “Over the Counter” trade, now dwarfs those of all other commodities.

creation also could turn out quite catastrophic. Derivatives provide that kind of freedom for financial portfolios, but similarly require a lot more knowledge than average investors have mustered.

Shifting risks from one place to another is fine as long as the party that ends up with the risk is both knowledgeable and strong enough to bear it. However, Martin Mayer made a law of the fact that “Risk-shifting instruments ultimately shift the risk onto those less able to deal with them.”⁶⁹ Although I think this is too sweeping a generalization, there are many institutions that have been badly burned without understanding what it was that hit them. Barings, a top name in the City of London for 233 years, became one of the most spectacular victims of this process (see sidebar).

Barings

The Duc de Richelieu said in 1818 that there were six great powers in Europe - France, England, Prussia, Austria, Russia and Baring Brothers. This reputation did not help in February 1995 when one single young trader lost \$1.5 billion--two times the bank's capital--in a few days on the Singapore derivatives market. The surprise must have been biggest inside the bank itself as Ron Baker, the head of the Financial Products Group of Baring Bank had made an enthusiastic assessment of the activities of Nick Leeson: “Nick had an amazing day on SIMEX ...Baring Singapore was the market... Nick just sees opportunities that are phenomenal, and he just takes them”⁶⁸

Derivatives are nevertheless here to stay, primarily because, when used correctly, they can be both useful to society *and* profitable to the financier. So we should get used to the idea that they may also provide us with some startling surprises, just like some of the amateur orchestral combinations in our earlier musical metaphor. As Dr. Jekyll turned into Mr. Hyde, so the blip on a computer screen can change the nature of a derivative position at the drop of a hat.

Capitalism's Central Nervous System

It is insufficient to look at currencies as just another asset class. A country's currency is indeed also much more. It plays the role of the *central nervous system that commands the values of all asset classes* in that country. This becomes clearer when we look at how all the other three traditional asset classes are affected directly by what happens to money. We have seen already that bonds are an attractive investment only to the extent that the currency in which they are denominated keeps its

⁶⁸ Phone conversation from New York to London, a few weeks before the disaster, as reported by Financial Times (September 20, 1996, p 10) excerpted from the book by Gapper, John and Denton, Nicholas : All that Glitters (London: Hamish Hamilton, 1996).

⁶⁹ Mayer, Martin The Bankers: the New Generation (New York: Truman Talley Books/Dutton, 1997) pg. 324. His argument: “The obvious illustration is the S&P 500 futures pit at the Chicago Mercantile Exchange, where a couple of hundred ex-taxi drivers working as “locals” were expected to carry the dynamic hedging of “portfolio insurance” when the stock market broke on October 19, 1987.”

value (i.e. when inflation is low or dropping). It is also well known that stock prices drop when interest rates rise, and interest rates tend to shoot up when a currency gets in trouble. The last asset class, real estate, presents a more complex situation. On the one side, real estate is the best protection available against inflation. On the other side, however, it is also very illiquid (i.e. difficult to sell in a hurry); so when serious financial problems arise, people who cannot meet their mortgage payments may have to liquidate their real estate at undervalued prices. This makes real estate investing a double-edged sword.

For instance, after the stock market collapse of 1929, real estate got just as depressed as stocks.

Government bonds turned out to be the best refuge at that time, because the government could not go bankrupt (it just printed money when needed) and everything was cheap to buy. A currency collapse today could potentially be worse than that, because it would bring down not only the stock market and real estate, but even the last refuge of government bonds. That is why I agree with Professor Robert Guttman that a money meltdown is the *only* way a true depression could manifest again in our lifetimes.⁷⁰ Money as the Achilles' heel of the capitalist system is not a new idea:

“Lenin is said to have declared that the best way to destroy the capitalist system was to debauch the currency.”⁷¹

Finally, the interconnection of the different financial markets makes monetary rot a contagious disease. Figure P.5 shows the spreading of what was initially a Thai currency crisis through the stockmarkets of ten different countries.

⁷⁰ Guttman, Robert: How Credit-Money shapes the Economy: the United States in a Global System (Armonk, NY and London, UK M.E. Sharpe, 1994).

⁷¹ Keynes, John Maynard The Economic Consequences of Peace (London, 1920) pg 220

Changes in Stockmarket Values in 10 Countries (in percent) (June 1997-December 1998)

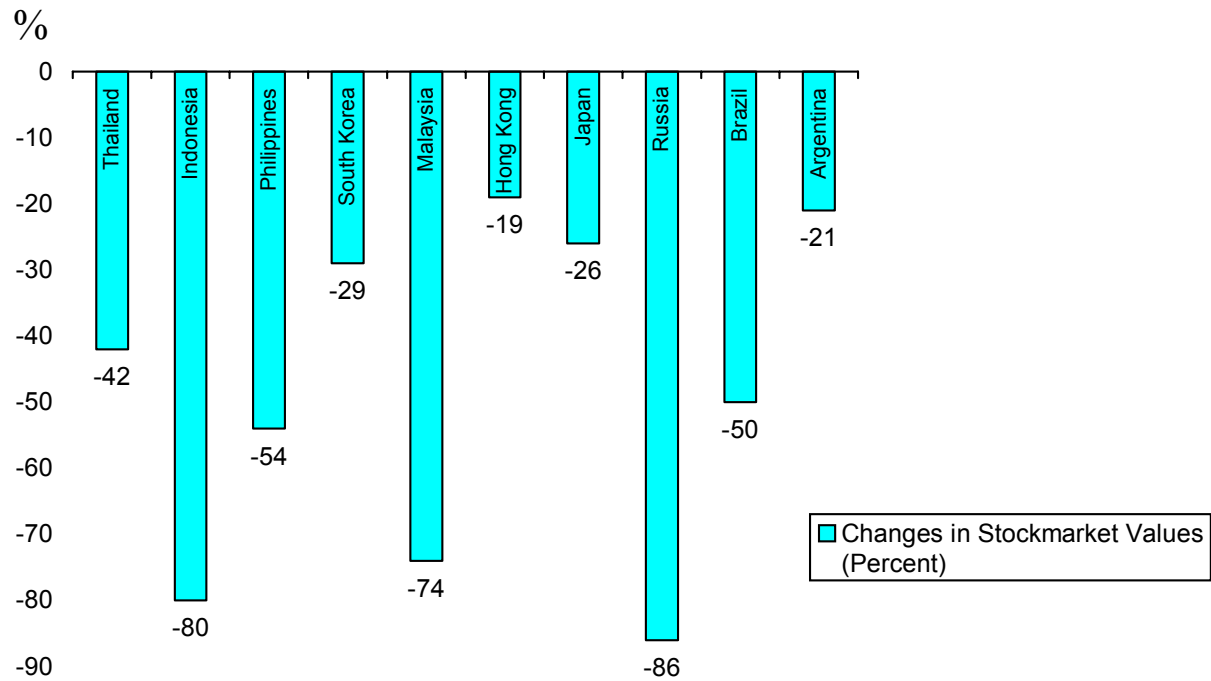


Figure P.5 Changes in Stockmarket Values in 10 Countries (%) (June 1997-December 1998)⁷²

⁷² Data extracted from Peter C. T. Elsworth "The Path of Crisis" The New York Times (February 17, 1999) pgA8.

When we discover that all our eggs end up in one money basket, I suggest *keeping a close eye on that basket*. Some well-qualified people are paid to do exactly that. Let me introduce you to them, and thereby complete the picture of the world's key money players.

Central Banks and Other Firemen

The financial sector has always been "special." Even today the finance industry is not treated as just another service industry. There are positive and negative reasons for this:

- On the positive side, financial institutions--even the private ones--are really performing the vital *public* function of providing, hopefully, a stable currency for use by the participants in the economy.
- On the negative side, financial institutions have often proven the most *fragile* component of any society (see sidebar). And it has been demonstrated time and again--from Sumer to Yugoslavia--that whenever money gets into trouble, whole societies can crumble.

National Level

Fires are rare, but when they occur they can be devastating. Entire cities have burned down because one single person has been careless, hence the invention of fire brigades and fire inspections. So it is with money: because financial institutions have proven so accident-prone, Central Banks were invented.

Why are Banks so Fragile?

Banks have always been accident-prone. Only counting the most recent bank crises, in the US major banks got in trouble in Latin America in the 1980s and the largest bailout in history occurred with the Savings and Loans debacle in the 1990s. The Scandinavian banks needed rescuing in the early 1990s. Japanese banks got in trouble three times in a row: first the Less Developed Countries crisis in the 1980s, a real-estate crunch in the 1990s, and the 1997 Southeast Asian meltdown. German banks got badly burned during the Russian debacle of 1998. The trickiest situations are those involving banks that are active globally, such as the BCCI debacle of 1991, which is still being cleaned up in courts around the world.

Why have banks remained so fragile?

The stark answer is a dilemma that nobody has really solved so far. By the nature of banking, banks take low-risk assets (deposits) and invest them in higher risk assets. When the risks pay off, these investments pay off and the bank's owners reap all the rewards. When the risk does not pay off and the bank fails, the losses are spread between the bank's owners and the depositors (or the governmental insurance safety net, which now protects the depositors). There is therefore a built-in temptation for banks to take high-risk/high return gambles. This is called a "moral hazard" in Central Bank jargon.

The dilemma is therefore: if banks are not allowed to take any risks, there is no banking; but if a major bank takes excessive risks, should it be allowed to fail? Big bank failures can destabilize the entire financial system. Worse still, when loans to thousands of businesses are withdrawn the rot can spread quickly to all kinds of economic activities. Suddenly millions of jobs and livelihoods for real people can be at stake.

Banking is different from any other business for one more reason: bank troubles tend to become everybody's problems...

According to figures cited by the World Bank no fewer than sixty-nine countries have endured serious banking crises since the late nineteen-seventies, and eighty-seven nations have seen runs on their currency since 1975.⁷³

⁷³ Cassidy, John "The New World Disorder" The New Yorker (October 26 & November 2, 1998) pg 199-200.

Bretton Woods Agreement

In July 1944, 45 countries signed the first written global monetary constitution at the hotel “Mount Washington” in Bretton Woods, New Hampshire. According to that agreement, all countries had to fix their currencies to the US dollar, and the US committed in counterpart to keep its dollar convertible into gold upon request from any Central bank at the fixed rate of \$35 per ounce of gold. This system put the US\$ in a *de facto* commanding role as linchpin of the global system. A new institution--the International Monetary Fund (IMF)--was created to police the system. Any change in the value of a currency required a preliminary approval from the IMF. The system worked well for over two decades until President Johnson introduced his “guns *and* butter” strategy during the Vietnam War, putting welfare with warfare at the top of the political agenda. This triggered an unprecedented dollar outflow from the US. Some years later, it was these substantial dollar holdings in the hands of foreign Central Banks that were to force President Nixon in 1971 to renege on the convertibility promise of dollars into gold, thus officially ending the Bretton Woods Agreement. However, the dollar’s role as official linchpin of the world’s money system remained intact. This further increased the influence of the US in global monetary matters, and the dependence of the world on the dollar, its linchpin currency.

Note that this remains true even with the Euro, whose international value remains linked to the dollar.

Whence Central Banks?

In the 19th century, the name “Central Bank” referred to a bank, head-quartered in a nation’s capital, that enjoyed the monopoly of issuing paper notes in the national currency. Once in a while, these banks would provide some simple mutual support to each other. Such was the case in 1825, when the French helped the Bank of England by swapping a shipment of gold for silver when there was a run on gold in London; a favor which the English returned in 1860, when the Banque de France was in dire straits. But such cases of mutual help were rare, little publicized and certainly would not have been considered part of the official duties of a Central Bank. When the US Central Bank, the Federal Reserve system, was created in 1913, it was inspired by that model.

All this changed with the Bretton Woods agreement, which set up the framework for the post World War II global environment (see sidebar). Central Banks now play much more complex roles.

- They serve as “emergency firemen” whenever a bank or the whole system gets in trouble. This is called respectively “lender of last resort” and “systemic risk management” in the jargon.
- They carry the ultimate responsibility for controlling inflation in the country. Over the past decades, this last task has been the one most closely identified by the general public as a central bank function.
- They achieve this inflation control mission through various mechanisms that influence the quantity of money that the banking system can create. They do not give direct orders to achieve this, but only provide “signals” such as changes in key interest rates, or purchases and sales of

government bonds (called “Open Market” transactions) and currencies in the foreign exchange markets (called “interventions”).

- Central Banks are also banks, although they don’t have retail customers: their customers are the banks of their country, for which they settle payments.

“Money’s Family Portrait”

The following chart shows a “family tree” of how all the main monetary players relate to each other (see Figure P.6). It forms a kind of inverted pyramid, with thousands of commercial banks on top, a layer of 170 Central Banks in the middle (regrouped here in three types according to who owns them), and two supra-national organizations at the bottom.

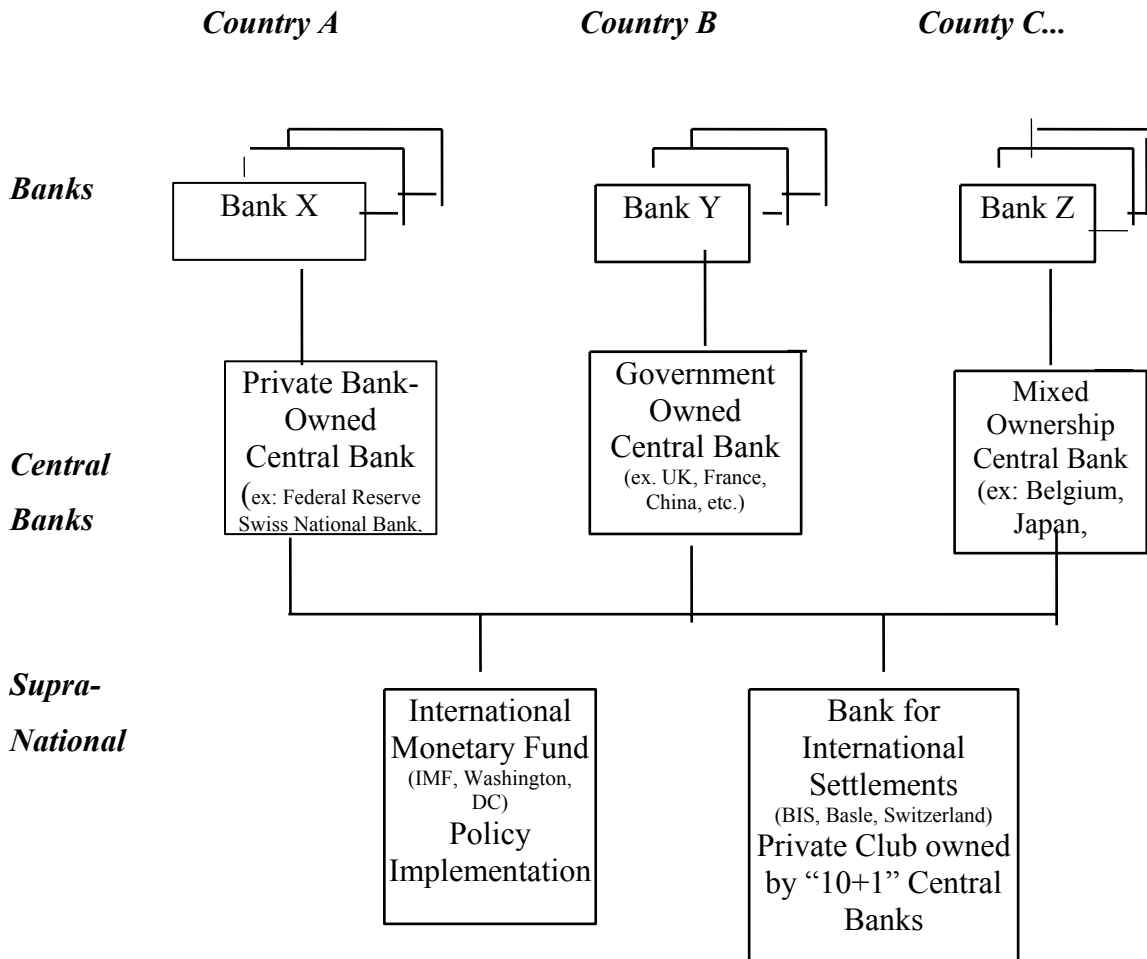


Figure P.6 Organization Chart of Today’s Global Monetary System

I have placed banks in each individual country on top of the chart, as they are the front-line issuers of credit-money. The Central Banks were initially only their backstop, their fire extinguishers, in case of trouble. Until 1936, almost all Central Banks were directly *owned by* the main private banks in each country. To this day, nine of the Central Banks are still private corporations owned by private banks, including the US Federal Reserve, the Swiss National Bank, the Bank of Italy and the South African Reserve Bank.

By the 1950s, there were 56 countries with Central Banks. Now there are 170, with most of the newcomers being government controlled. But there are also Central Banks whose ownership situations involve both government *and* banks (e.g., Belgium or Japan). Contrary to expectations, there has been no evidence that the various ownership arrangements have made any significant difference to either Central Banks' actions or effectiveness. Some of the most prestigious and effective Central Banks can be found in all three types of ownership, as have some at the bottom of the league.

The Supra-National Level

Finally, there are two important family members who represent the main supra-national coordinating tools *among* Central Banks:

- One is a policeman--the International Monetary Fund (IMF).
- The other a private club--the Bank of International Settlements (BIS).

Created in 1945 as the enforcer of the rules of Bretton Woods, the IMF is the auditor of Central Banks around the world, and is the official political arm of the global money system. As of 1997, 182 countries are members. A 24-member Executive Board supervises a staff of about 2,300 professionals, mostly economists. The IMF is the "lender of last resort" from whom member countries can obtain loans in case of emergencies from a pool of \$210 billion obtained as "quotas" from all member countries. Typically, such loans are conditional upon strict economic austerity measures, hence its reputation as a global economic policeman. The US has a dominant influence at the IMF. Not only does the US have veto power on decisions, but it also happens to be physically "close at hand" in Washington DC.

The BIS has a more peculiar history. It was created in 1930 ostensibly to deal with German war reparation payments. It was to become a private club owned and operated by the key “10+1” Central Banks. The “10+1” are so-called because there are 10 founding Central Banks on one side, plus Switzerland as host country on the other side (as a result of its “active neutrality” strategy, Switzerland is often “in” and “out” at the same time; it still does not “officially” belong to the IMF or the UN, for instance). The mission of the BIS was to address any important issues that would best be handled with efficient discretion. No politicians, no Treasury officials, no Ministers of Finance, not even Presidents or Prime Ministers are welcome.

One almost forgets that the BIS is also a bank, although its only customers are Central Banks. Hence its nickname as “Central Bank of Central Banks.” It even has a substantial currency-dealing room recently installed to enable it to monitor the global money system in real-time, and to provide wholesale market transactions for its member Central Banks. It remains a modest institution for the influence it wields: even today it has only 450 staff members including a research team of about 50 economists, who bring forth, among other things, a well-respected annual report on the state of the world financial system. The BIS has made its name in fire extinguishing operations in the past; it undoubtedly will be part of any future fire brigades as well.

We have seen a snapshot of the key players in this piece. However, any notion that this money game is a static one is dispelled as soon as we put all the pieces of the money puzzle together.

Money as a System

The monetary game is indeed mutating in front of our very eyes. The changes that are occurring involve unprecedented speed, scale and complexity. Two different perspectives illustrate that point: the one of the “firemen,” and the one for the rest of us.

The Firemen’s Viewpoint

From the perspective of the Central Banks, the world is definitely becoming tougher and more complex year after year. The explosive developments in the currency markets in particular have a series of implications that I divide under three headings:

- Power Shift
- Increased Volatility

- Stable or Unstable, that is the Question

Power Shift

A major power shift in the world system has already occurred. *Every government in the world, including the most powerful ones, such as the US, is actually being policed by the global foreign exchange markets.* If a government anywhere in the world dares to challenge these financial “diktats,” capital flight will almost instantaneously force it back into orthodoxy. President Mitterand in France in the 1980s; John Major in Britain and the Scandinavians in 1992; the Mexicans in 1994; the Thai, Malay, Indonesian, or South Korean governments in 1997; the Russian in 1998--have all paid the hefty pound of flesh that is extracted under such circumstances.

Even *Business Week* concludes: “In this new market...billions can flow in or out of an economy, in seconds. So powerful has this force of money become that some observers now see the “hot-money” (funds that move around quickly from one country to another) becoming a sort of shadow world government--one that is irretrievably eroding the concept of the sovereign powers of a nation state.”⁷⁴ The trickiest times occur when power shifts. They are by definition times of uncertainty. The form of uncertainty that Central Banks and other guardians of monetary order fear most is currency volatility.

Increased Currency Volatility

Currency volatility is a measure of change in the value of one currency against all the others. Central Banks predictably do not like volatility in their currency, and volatility happens to be one of the unexpected consequences of the massive increase in speculative activities. Back in the 1960s, the proponents of freely floating currency exchanges used to argue that currency volatility would drop as soon as a free market was established. Foreign exchange markets are certainly now a lot more open and free than they were in the 1960s, when the Bretton Woods fixed exchange rate system was operational.

However, an OECD (the Organization of Economic Cooperation and Development based in Paris)

⁷⁴ Business Week: “Hot Money” (March 20, 1995), pg 46

statistical study brought up some sobering conclusions, directly contradicting the theoretical forecast.⁷⁵ The past 25 years of floating exchanges have revealed an average foreign exchange volatility *four times* higher than under the Bretton Woods fixed exchange system.

It does not require a statistical rocket scientist to understand why the volatility increases with the speculative volume of the trades. Simple common sense explains it just as well. Let us assume that your currency is under pressure, and that a modest 5% of the major currency traders “take a negative view about that currency.” This means in practice that those who own your currency will sell it, and those who don’t own it sell short.⁷⁶ In 1986, when total daily volume was around 60 billion dollars, such a move by 5% of the market volume would have represented a \$3 billion move against the currency in question, certainly a challenge to a Central Bank, but a manageable one. Today, with volumes of \$2 trillion per day, the same proportional move would generate an overwhelming \$100 billion transfer against your currency, which no Central Bank would be able to withstand.

Stable or Unstable, that is the Question

From the above, we can surmise that Central Bankers are becoming increasingly uncomfortable. Not only are they dealing with a world of increasing uncertainty and currency volatility, but they themselves are getting out-gunned in the currency markets as well. The “official reserves” of Central Banks are exactly the equivalent of water reserves in a firemen’s job: they consist of the foreign currency reserves that Central Banks can use to intervene in the foreign exchange markets.

Typically, if a currency comes under pressure, and the corresponding Central Bank wants to stabilize the exchange rate it can prop up the currency by buying it in the market place.

“The most dramatic use of reserves were in the summer of 1992 and 1993 when the currencies of the European Union came under massive attack in the foreign exchange markets. Some DM400 billion (over US \$225 billion) were mobilized in 1992 and a smaller amount in 1993--amounts dwarfing

⁷⁵ Edey, Malcolm and Ketil Hviding: An assessment of Financial Reform in OECD countries (OECD working paper #154) 1995.

⁷⁶ In foreign exchange, all positions are always simultaneously long one currency and short another. In our example, people could buy Deutsche Mark or Dollars (go “long” in the jargon), while selling French Francs (go “short” French Francs).

⁷⁷ Deane, Marjorie and Pringle, Robert The Central Banks (New York: viking, 1995) pg 178

those spent in any previous period. But despite all the money spent, the Central Banks lost, and the markets won.”⁷⁷

Today, *all* the combined reserves of all the Central Banks together (about US \$1.3 trillion, including about \$340 billion in Central Bank gold, valued at current market prices) would be gobbled up in less than *one day of normal* trading. Compare this with the situation as recent as 1983 (see Figure P.7), when the reserves still provided a pretty safe cushion.

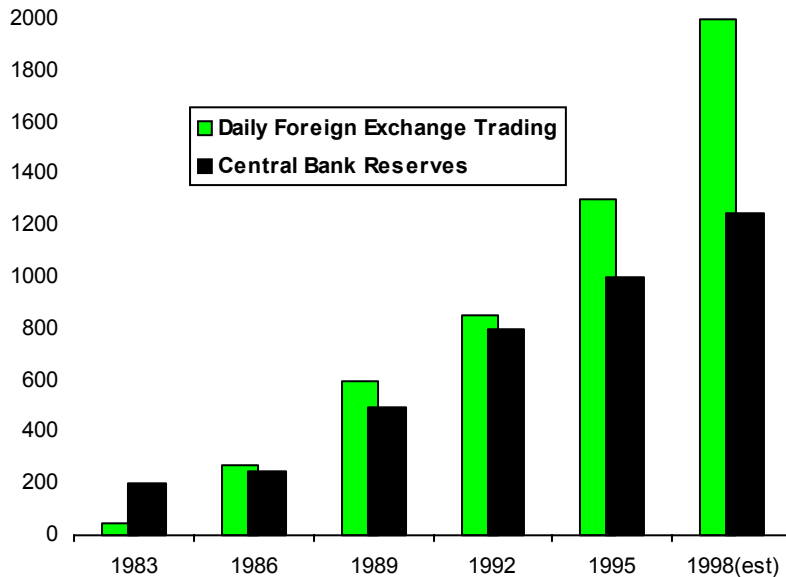


Figure P.7 Industrial Nations Central Bank reserves compared to Daily Foreign Exchange Trading (Sources: BIS, IMF, The Economist. 1998 estimated)

Add to this the estimated figure of \$15 trillion, which is the closest we can get to quantifying privately managed funds. Then factor in an unknown quantum of derivative positions, and you arrive at an untenable--albeit unquantifiable--potential foreign exchange volume. In case of serious trouble, the Central Banks would be like the New York Fire Department trying to deal with a blazing inferno in the World Trade Center using only brass hand pumps!

Even people who profit from explosive speculative activity are becoming seriously worried. For instance George Soros, widely considered one of the biggest players in this game states: “Freely

floating exchange rates are inherently unstable; moreover, the instability is cumulative so that the eventual breakdown of a freely floating exchange rate system is virtually assured.”⁷⁸ Joel Kurtzman, business editor of *The New York Times*, is even more damning. He titles his latest book *The Death of Money: How the Electronic Economy has Destabilized the World’s Markets* ⁷⁹.

A master of understatement like Paul Volcker, ex-governor of the Federal Reserve, goes on record expressing his concern about the growth of “a constituency in favor of instability,” i.e. financial interests whose profits depend on increased volatility.⁸⁰ Just to illustrate this last point, a typical comment by a foreign exchange trader quoted in the *Washington Post* reveals how a period of relative stability is perceived: “You can’t make any money like this. The dollar ...movement is too narrow. Anyone speculating or trading in the dollar or any other currency can’t make any money or lose money. You can’t do anything. It’s been a horror.”⁸¹

⁷⁸ Soros, George: *The Alchemy of Finance: Reading the Mind of the Market* (London: Weidenfeld and Nicolson, 1988) pg. 69

⁷⁹ Kurtzman, Joel: *The Death of Money: How the Electronic Economy has destabilized the World’s Markets and created Financial Chaos*(New York:Simon and Schuster, 1993).

⁸⁰ Volcker, Paul and Gyohten Toyoo : *Changing Fortunes: The World’s Money and the Threat to American Leadership* (New York: Times Books, 1992) pg.

⁸¹ Carmine Rotondo, foreign exchange trader with Security Pacific Bank, quoted in Rowen, Hobart “Wielding Jawbone to Prtoteck the dollar” *Wahington Post*(March 15, 1987 pg H-1).

The net effect of the actions of these “constituencies for instability” are the monetary crises that regularly make the front-page headlines. (See an extract from the *New York Times* in sidebar, where all the key actors to which you have now been introduced play out a real-life drama). The question nobody dares to ask is: Who is next? Latin America? Western Europe? China? When will the US, the largest debtor country in the world, become a target? What would that mean?

This is not the only challenge that the money system is facing. We will see later that banks and financial services are just starting to change again, this time under the pressures of the cybereconomy. We will discover that market innovations, such as Open Finance, will make it harder than ever for regulators to define what a bank is, or what money is theirs to manage.

Back Full Circle to You

We started this Primer with the questions: How is the *value* of your money determined? Who is *really* in charge of your savings? We can now answer these questions:

1. The value of your money is ultimately determined in an increasingly volatile global casino where 98% of the transactions are based on speculation.
2. Whether your nest egg is your house, some investment portfolio, or even the cash in your wallet, your savings are all highly interconnected within the money system. Therefore, whatever form

Tide of Money Is Seen as Continuing Threat (Extract from the New York Times 12/22/1997)⁸²

If there is one clear lesson from the turmoil that has so badly jolted Asia, it is that the financial systems in many fast-growing countries were no match to the huge, skittish pools of money they attracted.

...National systems intended to supervise banks in their home country have proven unable to keep pace with the rapid development of a global financial market place that pays little attention to borders. There is no international body able to play the role of global regulator, and an inability by the United States and other powers to impose changes on the often-reluctant governments and banks in nations at risk. A result is that to a remarkable extent, individual nations and even the worldwide economy are suddenly more at risk because of the ineffectiveness of obscure banking regulations in far-off countries.

...With the International Monetary Fund taking the lead, multinational organizations and national governments have pledged more than \$100 billion to bail out countries in Asia, the largest international rescue in history. Yet, paradoxically, there is no global body with the ability or the mandate to manage the problem.

...In the last few years we've come to realize--and you may say it's late--that banking stability is more important for a wider range of countries,” said Andrew Crockett, the general manager of the Bank for International Settlements. “It's the public sector, whose money is on the line, that prevents a financial meltdown, so the public sector has to have a voice.” Mr. Crockett said. “How can we get these countries to adopt these standards. The answer is we can't.”

...National supervision of complex global firms and global markets is inadequate to meet the requirements of the times,” said John G. Helmann, the chairman of global financial institutions at Merrill Lynch.

...The United States, acting at the behest of American banks, pressed South Korea to open its financial markets a few years ago, but Washington “didn't help the Korean Government prepare for these things--it went too fast” said Yoon Dae Euh, a professor of international finance at the Korea University and former member of Seoul's Monetary Board.

...However the problem gets addressed, no one thinks it will be a quick, easy task.”

⁸² Gerth, Jeff and Stevenson Richard W. “Poor Oversight Said to Imperil World Banking: Tide of Money is Seen as Continous Threat” The New York Times.(12/22/97) pg 1.

you will give them, the future of your savings will depend significantly on what happens to your currency.

3. Even if you believe that you don't have anything to do with "global finance", because you haven't invested yourself in the international money game, this is usually an illusion because your pension fund or your bank is directly or indirectly involved in such activities. In a

remarkable series of 4 major articles *The New York Times* described a typical situation of Mary Jo Paoni, a 59-year-old secretary and her husband George, a retired meat cutter from the small town of Cantrall, Illinois, who had decided that they "would never invest in Asia". The articles trace their money of their pension and mutual funds back to investments in Indonesia, Thailand and Russia, while they themselves ignore any of this (see sidebar).

4. Even if you have no investments or savings of any kind, your life will be touched because your country as a whole will be affected when money gets in serious trouble somewhere in the world. Figure P.8 shows the purchases of foreign stocks as a percentage of Gross Domestic Product for three countries. For instance, Germany has now invested the equivalent of two and a half times its total annual production in stocks abroad.

Of World Markets, None an Island⁸³

The New York Times traced the money of the Paoni couple, a typical midwestern family, through their local A.G. Edwards Money Market Fund to Bangkok Land, a Thai real estate development company which went bust in the baht meltdown; and to J.P. Morgan, one of the most active sellers of derivatives during the Asian crash. Through their Illinois State Pension Fund, part of their savings ended up in Gum, the prestigious supermarket in Moscow which went bankrupt after the Ruble collapsed; and in Peregrine Investments, a Hong Kong investment bank which rose from nowhere to \$25 Billion in revenues in 1996, only to collapse in 1998 with more than 2,000 creditors owed more than \$4 billion. Both these investments are now essentially worthless.

The globalisation of the financial markets means that, even if you don't know it, now you are most likely part of the global money game, and subject to the consequences of its instabilities.

⁸³ Title and the data in the sidebar are from the last of the four double page articles co-authored by Kristof, Nicholas D. with various other journalists (*The New York Times* (February 16, 17, 18 and 19, 1999). Together, the four articles provide a survey of the world's monetary turmoils and its consequences for ordinary people, unprecedented in its scope in the US Press.

Purchases of Foreign Stocks as a Percentage of Gross Domestic Product (1976-1998)

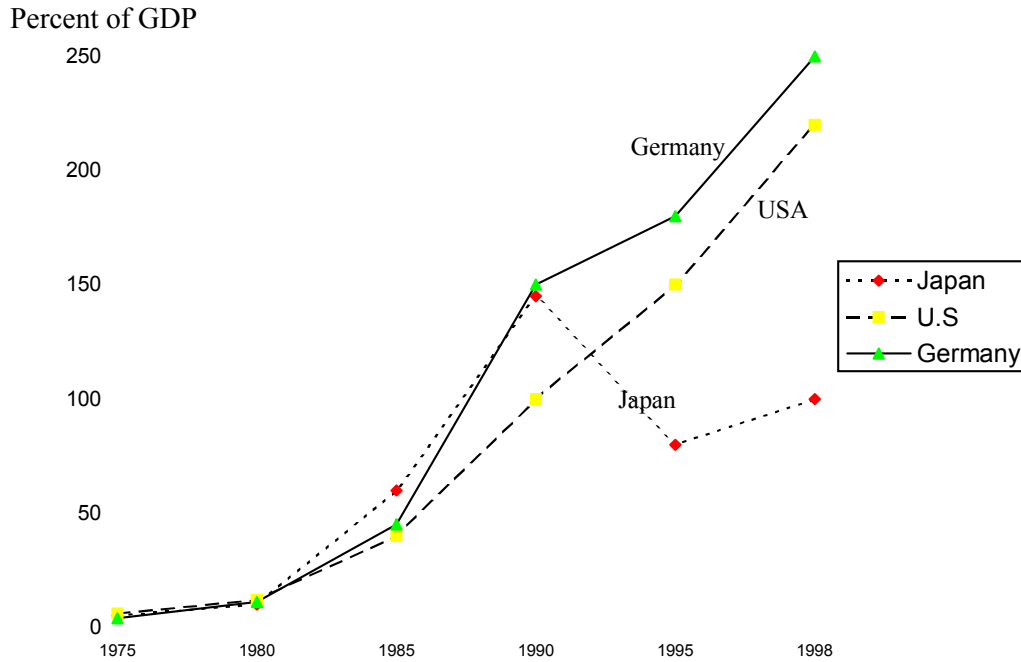


Figure P.8 Purchases of Foreign Stocks as a Percentage of Gross Domestic Product (1975-1998)⁸⁴

The stakes are enormous. Ultimately money is *trust*, which lives and dies only in human hearts and minds. Money systems, including our current one, are mechanisms and symbols that aim at keeping that trust alive. Historically, entire civilizations have been built on trust, because it is at the core of the self-confidence required for a civilization to grow or even survive. On the negative side, *when a society loses confidence in its money, it loses confidence in itself.*

*“The debate about the future of money is not about inflation or deflation,
fixed or flexible exchange rates, gold or paper standards;*

⁸⁴ Source The New York Times (February 17, 1999) pg A10.

*it is about the kind of society in which money is to operate.*⁸⁵

⁸⁵ Georg Simmel Philosophy of Money (original German edition 1900) (second English edition: London & New York: Routledge, 1990)

Chapter 2: Today's Money

“The study of money, above all fields in economics, is the one in which complexity is used to disguise truth, or evade truth, not to reveal it.”

John Kenneth Galbraith⁸⁶

“The thing that separates man from animals is money.”

Gertrude Stein, 1936

“The only thing money cannot buy is meaning”

Jacob Needleman⁸⁷

“Mom, could I have some money to go buy some candy at the store?” For most of us, our first experience of money is as a necessary object in the ritual of getting the things we want from stores. We accept it with the pragmatism of an innocent child, unaware of the mystery behind the transaction.

As we mature, we become conversant in many adult mysteries. We learn where babies come from, and participate in that process. We learn that all living things eventually die, and witness the death of a relative, friend, or perhaps a pet. We learn how our government works, and who makes the rules by which we are required to live.

And yet, one of the central mysteries of our lives as social beings – money -- remains completely obscure to virtually everyone. Most people probably suspect that the answer to the nature of money comes from the study of economics or monetary theory, and we all know these fields are boring--full

⁸⁶ Galbraith, J.K. Money: Whence it came, Where it went (Boston: Houghton Muffin Co., 1975) pg 5.

⁸⁷ Needleman, Jacob: Money and the Meaning of Life (New York: Doubleday Currency, 1994) pg. 239

of equations and devoid of emotional juice.

Ironically, money itself is a very emotionally juicy topic. Throwing money on the ground in a public place gets as much attention as taking off our clothes. Those who work in financial markets recognize that strong emotions rule over most money issues: emotions that are ubiquitous, violent, volatile and overwhelmingly powerful. Strangely, neither economics nor monetary theories consider the emotional nature of money. In fact, in order to study money “scientifically,” they deliberately suppress its basically emotional nature. What is going on here?

The creation of money is largely invisible to the untrained eye, and seems almost miraculous. Most people, when they find out where money really comes from, are as disbelieving as some children when they first find out where babies come from. “How could this possibly be true?” they wonder.

Economics textbooks deal with the question of what money *does*, but not with what money *is*. By asking the deceptively simple question “What *is* money?” we are put in touch with money’s age-old magic. This chapter will clarify the mystery by showing that money is not a *thing*, but an *agreement*—usually an unconscious one.

In contemporary society, we not only agree to participate in the existing money system—unconsciously—but we also bestow extraordinary power on that system. Here, the nature of that power will be explored, as well as the four key features of modern money that we usually take for granted. For instance, national currencies make economic interaction with our fellow citizens more desirable than with “foreigners,” thereby cultivating national consciousness. Less obvious is the mechanism of the interest, which will be shown to foster competition among users of the currency.

A “Simple” Question

The best known economist of the 20th century, John Maynard Keynes, *must* have understood money. He was, after all, the Chairman of the team who designed our current monetary system, known as the Bretton Woods agreement. Marcel Labordère, a French financial journalist, postulated in a letter to Keynes: “It is self-evident that man will never be able to know what money is no more

than he will be able to know what God is in the spiritual world. Money is not the infinite, but the indefinite, an astounding complex of all sorts of psychological as well as material reactions.”⁸⁸

Keynes’ answer to Labordère was not preserved, but we can deduce his opinion on the topic from his quip: “I know of only three people who really understand money. A professor at another university; one of my students; and a rather junior clerk at the Bank of England.” A prudent man, he didn’t name them. What Keynes is saying is that you can go right to the top of the hierarchy of experts and still not find an answer to the deceptively simple question, “What *is* money?”

Where is the money mystery coming from?

The representative of the Clinton administration to the IMF offered this revealing definition: “Money is magic. Central bankers are magicians. Like all magicians, they don’t like to show their tricks.” Was she referring to the real magic or simple parlor tricks? The answer is *both*. Magic and mystery have surrounded the money process during its entire evolution. There are two main reasons why money appears so mysterious:

- *Its history*
- *The need to perpetuate the confidence game.*

The History of Money

Keynes pointed out that “Money, like certain other elements in civilizations, is a far more ancient institution than we were taught to believe. Its origins are lost in the mists when the ice was melting, and may well stretch into the intervals in human history of the inter-glacial periods, when the weather was delightful and the mind free to be fertile with new ideas--in the islands of the Hesperides or Atlantis or some Eden of Central Asia.”⁸⁹

⁸⁸ Skidelsky, Robert: John Maynard Keynes: The Economist as a Savior, Vol II (New York: Penguin, 1994) pg 312. Also quoted by Lawrence S. Ritter ed. Money and Economic Activity (Boston: Houghton Mifflin, 1967) p. 33

⁸⁹ John Maynard Keynes A Treatise on Money (London, 1930) chap 1, pg. 13

While the exact origins of money are unknown, all its earlier forms were deeply related to the mysteries of the sacred, and its first role was as a **symbol**. A symbol is “something which represents something else which is immaterial or abstract,” according to the Oxford English Dictionary, which goes on to point out that all early symbols were related to religious concepts.

One of the oldest coin currency is a Sumerian bronze piece dating back to about 3200 BC. On one side of the coin is a representation of a sheaf of wheat, and on the other is a representation of

Photo 1
On a large alabaster vase dating from 3100-2900 BC, a naked man brings a large basket filled with food to Inanna. The Goddess is shown standing in front of a twin-doorpost entrance, symbolizing her temple.. An ancient repair with copper rivets is visible above the head of the goddess, indicating that the vase was treasured at the time.
 Alabaster vase, Uruk (Level III) h. 3 ft. Iraq Museum.
 Photograph Hirmer Verlag, Munich

The Mystery of the Shekel

The Sumerians called their first coin the “*Shekel*” because “*She*” meant *wheat*. “*Kel*” was a measurement similar to a *bushel*. Hence, this coin was a symbol of a value of one bushel of wheat. (The word “shekel” survives in modern Hebrew as Israel’s monetary unit.)

The original purpose of the shekel was for payment for sacred sexual intercourse at the temple of Inanna/Ishtar, the goddess of life, death and fertility. This temple, as well as being a ritual center, was the storage place for the reserves of wheat that supported the priestesses, and also the community, in lean times.

So farmers fulfilled their religious obligations to society and the Goddess by bringing their contribution of wheat to the temple and receiving in exchange this shekel coin, entitling them to a visit with the priestesses at festival time.

Two thousand years later, after the patriarchal system had changed the meaning and nature of these rituals, the Bible would describe these priestesses as “temple prostitutes.” However, all this must be understood in its own cultural context. The “sacred prostitutes” were representatives of the Goddess, and intercourse with them was intercourse with the Goddess of fertility herself, nothing to take lightly. At that time, fertility was truly a matter of life and death. If the crops failed, there was no alternative, and everyone starved or at least went hungry until next year. And, of course, completing the magic ritual properly insured the fertility in crops, animals, and children that were the requisites for future prosperity.

The reason why money, sex and death became all three powerful taboos in the West relates to the fact that all three are attributes of the ancient Great Mother archetype, as illustrated by the shekel associations. The full implications for the collective psychology of this connection are explored elsewhere.⁹⁰

Inanna (the Ishtar of the Babylonians), the Goddess of life, death, and fertility. They called it the “shekel,” and it was a sacred symbol embodying the mysteries of life’s fertility (see sidebar). The shekel is by no means atypical. Throughout history, virtually every society has conferred some mysterious sacred qualities on its currency.

More than 2,500 years after the Sumerian shekel, the first Greek coins were actually tokens given to citizens as proof of payment of their dues. These tokens could be redeemed for participation in the annual “*hecatomb*” or sacred meal to be shared with the Deities.

The Arab scholar Ibn Khaldun claimed that “God created the two precious metals, gold and silver, to serve as a measure of all commodities...” Without the further need for intervention by any religious institution, gold and silver remained symbolically associated respectively with the sun and moon. For centuries, their prices stabilized mysteriously in a

fixed ratio of 1/13.5, astrologically determined to reflect the heavenly cycles. These two metals remained divinely ordained currencies after the astrological justification was long forgotten. There are many people who, to this day, claim that “real” money would be a return to the gold standard. Some even keep invoking its biblical origins.⁹¹

The Esoteric Dimension of the One Dollar Bill

(Synthesis of a Joseph Campbell conference)

I invite you to *really* look at the familiar one dollar bill. The most interesting side is not where George Washington is engraved, but the one where the Great Seal of the United States is represented.

On the left, the obverse (normally hidden) side of the Great Seal provides an image of the Founding Fathers’ interpretation of the Source of Manifestation. It has the truncated pyramid crowned by the Delta of Light with the all-seeing eye of God. It represents spiritual power commanding the foundation of matter. The eye depicts the “opening of the eye” of Yahweh or of Brahma by which He created the physical world. This alludes to the eye that manifested the first world --we would say the Big Bang in our contemporary scientific language. The Latin text *Annuït Coeptis* translates as “*It supports our endeavor.*” It is interesting that the Latin here is gender--neutral, and therefore, does not necessarily imply a “masculine” God. The other text, *Novus Ordo Seclorum*, means “*The New Order of the Centuries.*”

The other side of the Seal (the officially visible one) represents the Source of Action, symbolized by the Eagle--symbol of Zeus, the only bird that could look into the sun. This eagle holds thirteen arrows (symbol of power) in its left claw, and an olive branch (symbol of peace) in its right claw.

The number 13, the number of transformation--represents at the exoteric level the number of initial founding states. However, here it also has to be taken in its esoteric meaning, given the extraordinary lengths to which this number is repeated in the figure. The number 13 is referred to no less than seven times! These are: the number of rows of stones in the pyramid, the number of stars, the number of leaves on the olive branch, the number of arrows in the claw, the number of letters in ‘*annuit coeptis*,’ and the number of letters in the rest of the figure (including the Roman letters of the date) which amount to 26 (or 2x13).

Achieving the right number of letters has required introducing an orthographic “mistake” in the Latin text (*seclorum* instead of the normal *seclorum*). The disposition of the 13 stars above the eagle forms a “Seal of Solomon” (also called the “Star of David”) and is intended to give us some further clues. That six-pointed star is indeed one of the richest cabalistic and alchemical symbols. Do we need to go further to prove the point that, even in today’s totally secular world, the currency bill most-circulated globally is instilled with substantial “mysterious sacred qualities”?

⁹¹ Congressman Bill Dannemeyer, from southern California, wrote to his constituency that “It is not an accident that the American experiment with a paper dollar standard, a variable standard, has been going on at the same time that our culture has been questioning whether American civilization is based on the Judeo-Christian ethic, or Secular Humanism. The former involves formal rules from God through the vehicle of the Bible. The latter involves variable rules adopted by man and adjusted as deemed appropriate.” Quoted in William Greider *The Secrets of the Temple* (New York: Touchstone Books, 1987) pg. 230.

There is some irony in the fact that the Almighty Dollar is no exception to this mystical phenomenon. Issued by a country with a scrupulous separation between Church and State since its founding, where school prayer can still stir a heated debate, the most ordinary one-dollar bill has as motto, "In God we Trust." That same bill is illustrated with both sides of the Great Seal of the United States. That seal has been described by Joseph Campbell as extraordinarily laden with esoteric symbols (see sidebar).

It can be fascinating to discover the next supporting mystique. Liberia, for instance, issued its legal tender coinage with the portraits of Captain James T. Kirk and Captain Jean-Luc Picard of the starship *Enterprise*, paying royalties to Viacom, owner of the Star Trek trademarks, in the process.⁹² Until recently, it was the fashion to design banks to look like temples, complete with reverence lingering inside them. Even the first Internet bank, the First Security National Bank, with only an Internet address and no physical customer branch, felt the need to bow to custom by using a Greek Revival bank building as its first webpage symbol.

Central Bankers, in particular, still shroud their doings in priestly mystery. A hearing of the Chairman of the Federal Reserve in Congress has just as much ritual and studied ambiguities as the oracles of the priests of Apollo in Delphi in Ancient Greece. Two quotes illustrate this perfectly. The first is my favorite Alan Greenspan witticism: "If you have understood me, then I must *not* have made myself clear." The other comes from William Greider in his well-named best selling book on the Federal Reserve, *Secrets of the Temple*: "Like the temple, the Fed did not answer to the people, it spoke for them. Its decrees were cast in a mysterious language people could not understand, but its voice, they knew, was powerful and important."⁹³

However, there is more to the mystery of money than just a reflection of the well-established conservatism of the financial world.

⁹² Ferguson, Sarah: "Star Trek: The Next Currency," *Worldbusiness*, Spring 1995, pg 14.

⁹³ Greider, William *The Secrets of the Temple* (New York: Touchstone Books, 1987) pg. 240

The Needs of the Confidence Game

If a friend were to offer you a choice between a \$20 bill and a piece of paper on which was written, “I promise to pay \$20 to the bearer of this note,” which would you prefer? You may know your friend as a sterling and trustworthy person. But if you try to exchange the little chit at the hardware store for a new garden hose, the clerks won’t take it. Even if they also know your friend, they will be concerned about the store’s ability to pay its suppliers with the note. So, naturally, you would prefer the \$20 bill, because lifelong experience has taught you that the \$20 bill will be accepted by everyone as worth \$20. You have a deeply held belief--and here is the key--*not* that \$20 bill is valuable, but that everyone else will accept it as valuable. It doesn’t really matter what *you* think about your money, you still know that you can spend it. You believe that everyone else believes that the money is valuable. What we are talking about here is *a belief about a belief*.

Matters of belief and social convention can be powerful and practically indestructible. History abounds in examples of people who have chosen torture and death over changing their beliefs. We also recognize that someone can choose to continue believing something, even when faced with ample evidence to the contrary. So belief has a formidable presence in the human psyche.

A belief about a belief, however, is a different animal altogether. It is a fragile and ephemeral thing. Perhaps nothing can shake my belief, but my belief about your belief can be eviscerated by a rumor, a mere hunch, a feeling. Moreover, a chain of belief about a belief is only as strong as its weakest link. If I think that someone on the other side of the world has stopped believing in the Mexican peso, the Thai baht, or the Russian ruble, then I have to fear that his neighbors may stop believing. As a result the whole house of cards may fall down, as it did for Mexico in December 1994, for Thailand late 1997, or for Russia in August 1998.

For instance, in June of 1977, US Treasury Secretary Michael Blumenthal addressed the dollar valuation problem. Simply by airing his concerns, he launched the dollar into a two-year tailspin.

In brief, the game of money, exactly as the Ancient Greek oracles, is a **confidence game**.

Whenever the emperor has no clothes (i.e. whenever a “crisis of confidence” looms),

those in the know hope that no guileless kid will make an improper remark. Under such circumstances, a facade of regal confidence, mystery, decorum, and ritual serves to ensure that a long and fragile chain of beliefs will hold.

Why Money is not a Thing

We should now dissipate a key illusion in the magic about money: ***Money is not a thing.***

For most of history, money has definitely *appeared to be a thing*, in fact, an incredible variety of things (sidebar).

Without even mentioning the most recently prevailing forms of money, such as paper, gold, silver or bronze, Glyn Davies created a full money alphabet with a small selection of objects that served as symbolic of value: amber, beads, cowries, drums, eggs, feathers, gongs, hoes, ivory, jade, kettleleather, mats, nails, oxen, pigs, quartz, rice, salt, thimbles, umiaks, wampums, yarns and zappozats, which are decorated axes.⁹⁴

From the Smallest to the Biggest

Not only did money vary in the nature of the objects used as its symbol, but also in its size. The smallest coins were probably some denominations of coins from Lydia, the place which Herodotus credited for having invented “modern” coinage around 687 BC. Their smallest denomination was struck in *0.006 ounces* (one-fifteenth of the weight of a modern US penny) in electrum, a naturally occurring alloy of gold and silver.

The record for the heaviest currency is unquestionably the Yap island’s money, in the Caroline Islands of the West Pacific. They are gigantic six-foot wide round slices of a special limestone, cut from a rock on islands 400 miles away. They are a “macho” currency, used ceremonially by men, without moving them from the place where they rest. Yap women used more practical money in the form of strings of mussels.

⁹⁴ Glyn, Davies: A History of Money from ancient times to the present day (Cardiff: University of Wales Press, 1994) pg. 27

Interestingly, a simple thought experiment can separate the aura of money from any or all these things. Let us assume that you are stranded alone on a deserted island. If, when you were left stranded, you had a *thing* in your pocket--say a knife--that knife will still be useful as a knife on your island.

Now, you may take with you a million dollars in money in this fantasy, and you may have it in any form you like: cash, a cashier's check, credit cards, gold bars, Swiss Francs, even any of the forms of the above money alphabet

that strike your fancy. Whatever form you choose, on your island that money changes into paper, plastic, metal or whatever else, *but it has ceased to be money*. This is why explorers to unknown lands have sometimes had trouble guessing what currency to carry with them (see sidebar on Stanley's money).

Stanley's Money

“When Stanley set out to find Livingstone in East Africa in 1871, he took with him three types of money - wire, cloth, and beads--because at the level of his consciousness where money and Africa had their existence, those seemed to be what Africans would make of the gold, silver, and copper of Victorian London ...As it turned out, he did not use much of his money--if that's what it was--lugged by two hundred porters half-way across the continent, but resorted to another nineteenth-century currency, the bullet.”⁹⁵

To be precise, Stanley took with him 29,200 yards of assorted Indian and American cloths, 22 sacks of 11 varieties of beads and 350 pounds of #5 and #6 brass wire. Stanley ended up leaving 992 pounds of beads and all the wire, which had found no taker, with Livingstone at Ujiji. He had also taken ample ammunition and used it to shoot any animal or human who would not cooperate in his project.⁹⁶

Events in recent decades have further made evident the non-material nature of money. In 1971, the United States ceased to define the value of the dollar in terms of gold. Since that time, the dollar has represented a promise from the US government to redeem the dollar with--another dollar. At least when the dollar was backed with gold, we could more easily *believe* it had some objective value. With the demise of the dollar-gold equivalency, such self-deception has become more difficult.

For another analogy of money and magic--no magician's routine is complete without a disappearing act. Money has been performing this feat in a rather spectacular way. Once upon a time, when money was mostly gold and silver coins, banks started issuing pieces of paper that stated where the metal was kept. The next step in the disappearing act is already well under way. The vast majority of our paper money has further dematerialized into binary bits in computers belonging to our bankers,

⁹⁵ Buchan, James *Frozen Desire: The Meaning of Money* (New York: Farrar Strauss Giroux, 1997) pg 17.

⁹⁶ Stanley: *How I found Livingstone* (London, 1874) pg 22-24.

brokers, or other financial institutions, and there is serious talk that all of it may soon join the virtual world. Should we wait until the last dollar bill has disappeared into a cyber-purse to wake up to the true non-material nature of money?

A Working Definition of Money

Our working definition of money can now be very straightforward:

*Money is an **agreement**, within a **community**, to use something as a **means of payment**.*

Each one of the **boldfaced** terms is essential in this definition. Seen as an **agreement**, money has much in common with other social contracts, such as political parties, nationality, or marriage. These constructs are real, even if they exist only in people's minds. The money agreement can be attained formally or informally, freely or coerced, consciously or unconsciously. Later in this chapter, you will learn about the terms of our contemporary money agreement.

Money as an agreement is always valid only within a given **community**. Some currencies are operational only among a small group of friends (like tokens used in card games), for certain time periods (like the cigarette medium of exchange among frontline soldiers during World War II), or among the citizens of one particular nation (like most "normal" national currencies today). Such a community can be the entire global community (as is the case of the US Dollar by treaty, as long as it is accepted as reserve currency), or a geographically disparate group (such as Internet participants).

Finally, the key function that transforms the chosen object into a currency is its role *as means of payment*. Notice that the words “means of payment” are used instead of the more narrower “medium of exchange” (sidebar). The nuance is useful to include transactions which have ritual or customary purposes, instead of just commercial exchanges. After all, it is only in modern Western culture that total priority has been given to commercial exchanges, neglecting the other purposes for payments.

There are also other functions that today’s money tends to perform, such as unit of account, store of value, tool for speculation, and so on.⁹⁸ However,

for the purposes of this book these functions are comparatively secondary, considering that there have been perfectly effective currencies that did not perform some or all of these other roles.

In summary, the “magic” of money is bestowed on some “thing” as soon as a community agrees on using it as a means of payment.

The Origin of Money’s Power

Besides magic, we also endow money with power. As Marcel Proust observed, “Material objects have in themselves no power, but, since it is our practice to bestow power upon them...”⁹⁹

James Buchan eloquently described our rationale for doing so: “The difference between a word and a piece of money is that money has always and will always symbolize *different things to different people*: a banknote may describe to one person a drink in a pub, a fairground ride to another, to a third a diamond ring, an act of charity to a fourth, relief from prosecution to a fifth and, to a sixth, simply the sensation of comfort or security. *For money is frozen desire*. ...That process of wish and

Means of Payment vs. Medium of Exchange

Jonathan Williams, curator of the Department of Coins and Medals in the British Museum makes the point “it is arguable that Western culture and its money systems, far from being ‘normal’, are actually an historical anomaly in their fixation on the commercial. If this is right, it would be an even greater mistake for Westerners to interpret other monetary systems as a more primitive version of their own.”

He gives the example of the use of cloth currency among the Lele in Congo, Africa, until the middle of the 20th century. Payments in specific cloths woven in raffia were supposed to be made to reinforce or heal social ties among the Lele, for instance as payment for initiation fees into religious groups, marriage dues, rewards to wives for childbirths, compensation for fighting or wounds inflicted on others, or as tribute to chiefs. In addition, the same cloth currency could be used as payment for goods, but this medium of exchange function was considered marginal compared to the other social uses.⁹⁷

⁹⁷ Williams, Jonathan: *Money: A History* (New York: St. Martin’s Press, 1997) pg 207 - 209.

⁹⁸ These are explained in more detail in Appendix A.

⁹⁹ Proust, Marcel *Le Temps Retrouvé*

imagination, launched or completed a million times every second, is the engine of our civilization...For *the objects of human desire are limitless, or rather limited only by the imagination, which amounts to the same thing.*¹⁰⁰

Money Shifts and Power Shifts

Money is, therefore, much more than a technical issue. Whenever a currency is accepted within a community, it makes an implicit statement about power in that community. So when priests or priestesses were in power, temples issued money. When kings dominated, Aristotle attributed to them personally the “Sovereign right to issue currency.” In the Industrial Age nation-states became the paragon of power, so national currencies automatically became dominant.

Now that power is starting to shift away from the nation-states, it should not come as a surprise that new non-national currencies are coming out of the woodwork. Some people still assume that there is only one kind of money possible in the modern world--the familiar national currency, in the form of bills and coins. The first magician’s trick concerning money is to make us believe that we need the magician’s help to create money. This is definitely not the case, unless we choose to take slight of hand for reality. Different kinds of money have co-existed in the past, and do so now as well. Frequent-flyer miles or Internet money are just early examples of corporate scrip that we should expect during an Information Age. Other examples will be spelled out in the next chapter.

Before we explore these new, less familiar currencies, we need a firm basis from which to compare them with the key characteristics common to all our familiar national currencies, and the social effects they tend to generate.

Today’s Money

All money systems serve to facilitate exchanges among people. Whenever a specific financial system is designed, the remarkable motivating power of money is invariably used to load the system with a host of other objectives--sometimes conscious, often *unconscious*--from the prestige of the

¹⁰⁰Buchan, James Frozen Desire: The Meaning of Money (New York: Farrar Strauss Giroux, 1997) pg 19-20 *Italics added.*

Gods or the ruler, to collective socio-economic motivations.

The main characteristics of today's system were pieced together in pre-Victorian England, just in time to trigger the Industrial Revolution. Its legacy--the money system that prevails today--looks *as if* its designers had asked: How can we create a money system that reinforces our nation-state, and concentrates resources to enable systematic and competitive heavy industrial development?

Even if its designers never asked such a question, the system has proven remarkably successful in meeting these objectives. Every country in the world, independent of its level of development or its political orientation, has bought into this pre-Victorian construct. Even Communist countries have reproduced all its key features, except that banks became state-owned rather than private, which in practice did not prove to be beneficial.

Four Key Design Features

All Industrial Age currencies have four key characteristics in common, which gradually came to be considered as self-evident for the first time in England between the 17th and early 18th centuries. It's not as if some conspiratorial group of Englishmen gathered in a dark, smoked-filled room to dream up the current money system. What happened instead was a slow gradual evolution of payment and banking habits. This was accompanied by dramatic changes in personal insights and collective crises--such as the need to finance wars, or the political reactions to the South Sea Bubble of the 1720s. Such a combination of more or less conscious choices by the many and the few shaped a money system remarkably in tune with the pre-Victorian English *Zeitgeist*,¹⁰¹ the priorities and mindset of an island country poised to carve out its empire in the world.

Many aspects of the modern money system can be traced back to the customs of medieval goldsmith money lending, or to Renaissance banks from Tuscany and Lombardy. But many of these hallowed traditions were dropped and replaced with brand new ones whenever they did not fit with the

¹⁰¹ *Zeitgeist* would translate literally as "Spirit of the Age," but the English translation does not really do justice to the original German. *Zeitgeist* also captures the mood, fashionable ideas, and the artforms through which this mood and ideas are expressed. It is interesting that the concept of *Zeitgeist*, and its accompanying constructs of *Weltanschauung* (literally, "Way of Looking at the World") were developed in parallel with the concept of the nation-state by the German philosopher Hegel (1770-1831).

Zeitgeist of pre-Victorian England. For instance, charging interest on money--which had been prohibited on both moral and legal grounds for more than 20 centuries--suddenly became a normal and accepted practice.

While payment and banking technologies (i.e., *how* we do things) have continued to dramatically change and improve, the fundamental objectives pursued by the system (i.e., *why* we do them) seem not to have been seriously revisited since Victorian England. From the perspective of the objectives pursued by the money system, we are still living with what propelled us so effectively into and through the Industrial Revolution.

Four key features still characterize our “normal” money systems and remain basically unquestioned: *Money is typically geographically attached to a (1) nation-state. It is (2) “fiat” money, i.e. created out of nothing, by (3) bank debt, against payment of (4) interest.*

Perhaps this sounds obvious, even trivial, but the full implications of each one of these characteristics are much less clear. When we question these assumptions, we can sometimes discover a wealth of new insights. Let us take a brief look at each one of them.

National Currencies

We now have trouble imagining any currency *other* than those issued by a given country, or in the case of the Euro, a group of countries. However, it is useful to remember that the concept of a nation-state itself is only a couple of centuries old.¹⁰² Therefore, the vast majority of historical currencies were, in fact, *private* issues made by the sovereign or some other local authority.

However, if you want to create a national consciousness, the creation of a national currency is one of the more powerful tools available. It makes evident in everyday life the boundaries that are otherwise visible only in an atlas. In a recent example, during the breakup of the Soviet Union, one of the first acts of the newly independent republics was to issue their own currencies. “A common

¹⁰²¹⁰² The German philosopher Georg Wilhelm Frederick Hegel (1770-1831) developed the theoretical concept of a nation-state owned by the people who inhabit it, as opposed to private or oligarchical fiefdoms which were the historical norm for kingdoms or empires.

currency translates into a common information system, so that its inputs and outputs can be measured and compared across the parts.”¹⁰³ Sharing a common currency creates an invisible, yet very effective, bond between all sectors of a society, and draws an information boundary between “us” and “them.” Similarly, the Euro--the single currency that, as of January 1999, officially replaced national currencies in 11 European countries—has as one of its goals the creation of a more unified European consciousness.

The ubiquity of national currencies should not make us forget that during the few recent centuries when national currencies were issued, there was always another *transnational* currency available for global trade, namely gold. The only exception to this rule has been in the past twenty-five years or so, when one particular national currency--the US dollar--has become *the global currency*. This arrangement has serious negative consequences for all participants, including the US (see Appendix A).

Lastly, emerging global non-geographic communities, such as the Internet, foretell significant changes in the transnational currency realm, which will be addressed later (Chapters 3 and 7).

“Fiat” Money

The simple question “Where does money come from?” propels us back into the world of magic. Not only does money perform the act of disappearing and reappearing, it is also, quite literally, *created out of nothing*. To fully understand this process, we need to look beyond appearances. At first sight, national currencies appear to be created on the printing presses of Central Banks or, in the case of the US, the Department of the Treasury. But this is *not* where money is created. The rabbit that appears to come out of the magician’s hat is not really coming from the hat, either. If we want to know where the rabbit comes from, we need to track its path through the magician’s sleeve.

If you want \$100 in cash, what do you do? You go to your bank teller and ask for \$100. He or she (or now with ATM’s, ‘it’) will look up your account balance. If there is more than \$100 in your account, that amount will be debited and you will be given the cash. If your balance is not large

¹⁰³ Handy, Charles *The Empty Raincoat* (London: Arrow Business Books, 1995) pg.108

enough, you will get an apologetic smile or some other message, but not the money.

Your money is really what is in your account, because the familiar physical bills will be given to you on demand as long as there is a positive balance on your account. Similarly, the Treasury will deliver to your bank as many bills as it wants, but it will debit the bank's account for the corresponding amount.

So how does the money appear in your bank account? Most of the time, it is there because you deposited your paycheck or some other form of income. But where does your employer get this money? To play on Truman's famous line: *Where does each buck ultimately start?*

Bank Debt

The Primer has alluded to a fact that may be surprising to some. *Every dollar, Euro or any other national currency in circulation started as a bank loan*. For instance, when you qualify for a \$100,000 mortgage to buy a house, the bank enters a credit into your account and literally creates the \$100,000 out of nothing. That is the moment when money is really born. Of course, these bank loans are typically secured by an asset such as a house, a car, a corporate guarantee, etc. Once you have the credit, you can draw the check to pay the seller of the house, who in turn deposits it in her bank account, and the money starts flowing infinitely through the system. Until someone reimburses a loan, at which point the money is destroyed, disappearing back into the void where it originated. (sidebar)

The Void at the Center

The American author Ayn Rand asks the question: "So you think that money is the root of all evil. Have you ever asked what is the root of all money?" One of the main differences between Eastern and Western philosophies is that in the East the Void is explicitly placed at the origin of everything, while in the West there is always a God, a "Logos" (Word), a "Monad" (the One), some originating and organizing principle. In fact, in the West the void has been hidden at the center of our money system. Is this one of the reasons for its mesmerizing power?

This is why paper money is really "the part of the national debt on which no interest is paid," as summarized by Britain's parliamentary Radcliffe Commission.¹⁰⁴ This simple process of creating

¹⁰⁴ Committee on the Working of the Monetary System, Report (London: Her Majesty's Stationary Office, 1959) paragraph 345, pg. 117.

money is dubbed with the appropriately fancy technical Latin name “*fiat*” money. “*Fiat Lux*” were the first Words that God pronounced, according to Genesis: “Let light be.” The next sentence is, “And light was, and He saw it was good.” We are dealing with the truly Godlike function of creating something out of nothing (“*ex nihilo*”) by the power of the Word.

Little wonder that you may feel intimidated by your banker the next time you respectfully make a request for a loan! Just as the magician needs a handkerchief to wave above the hat before the rabbit can appear, the banker has an additional veil. In the process of creating money, your attention will be drawn toward the boring technical aspects, such as mechanisms to foster competition among banks for deposits, reserve requirements, and the role of the Federal Reserve in fine-tuning the valves of the system.¹⁰⁵ While these technical features all have a perfectly valid purpose (so does the handkerchief), they all simply regulate how much fiat money each bank can create (the number of rabbits that can be pulled out of which hat).

Particularly inventive about this scheme, that goes back to pre-Victorian England, is its ability to enable societies to solve the apparent contradiction between two objectives: creating and reinforcing the nation-states, while, at the same time, relying on private initiatives and competition among them. Specifically, it provides a smooth way to privatize the creation of the national currency (theoretically, a public function) as a privilege of the overall banking system, while still maintaining a competitive pressure between banks to obtain deposits from clients.

There is also one very important built-in aspect of bank-debt “fiat” money systems. Jackson and McConnell have summarized it in a few words: “***Debt-money derives its value from its scarcity relative to its usefulness.***”¹⁰⁶ In other words, for a bank-debt-based fiat currency system to function at all, ***scarcity has to be artificially and systematically introduced and maintained.*** This is one of the reasons why today’s currency system is not self-regulating, but requires the active role of Central Banks to maintain that scarcity. One can even say that Central Banks compete with each other to

¹⁰⁵ These technical aspects are explained in Appendix A.

¹⁰⁶ Jackson & McConnell: Economics (Sydney: McGraw Hill, 1988)

keep their currency internationally scarce. This serves to maintain their *relative* value and scarcity as well.

We will see later that there also exists other types of currencies called “mutual credit systems,” which are more self-regulating than national currencies, and the value of which is maintained by the backing of goods and services they represent within the communities that accept them. These currencies can afford to be available in *sufficiency*, as opposed to requiring artificial scarcity.¹⁰⁷

¹⁰⁷ Please note that I use the word “sufficiency” and not “over-abundance.” Economists will--correctly--point out that if there is an over-abundance of anything (including money), it becomes treated as valueless. This is not true with sufficiency. Mutual credit systems--discussed in later chapters--create currency in sufficiency (for example service-time) which is not scarce, but is not over-abundant either.

Interest

The last obvious characteristic common to all official national currencies is interest. Here again, we believe that interest on money is somehow intrinsic to the process, forgetting that for most of history that was definitely not the case. In fact, all three “religions of the Book” (Judaism, Christianity, and Islam) emphatically outlawed usury, defined as *any* interest on money. Only Islamic religious leaders still remind anyone of this rule today. It is sometimes forgotten that the Catholic Church, for instance, remained prominently in battle against the “sin of usury” until the 19th century (see sidebar).

The Effects of Interest

The full implications of applying interest on the loans creating money are the least understood of the four characteristics. Nevertheless, the effects of interest on society are pervasive and powerful. They therefore warrant more detailed examination. The way interest is built into the money system has three consequence. These are:

Usury and Religions

Technically in Judaism, usury was only prohibited among Jews. “Unto thy brother thou shalt not lend upon usury, that the Lord thy God may bless thee in all that thou settest thine hands to.” (Deuteronomy 23:20). This enabled Jews to lend with interest to non-Jews. This practice became one of the reasons for their unpopularity in the Middle Ages. Islam is more encompassing in its condemnation: “What ye put out at usury to increase it with the substance of others, shall have no increase from God.” (Koran Sura 30:38). Given that the modern world evolution occurred mostly under Christian influence, it is this religion’s change of direction over time that is really most relevant for our purposes. The historical importance of usury in the teachings of the Christian Church can only be compared with today’s emphasis on sexual sins and abortion. It was definitely one of the most persistent dogmas of the Church. One of the earliest Church fathers, Clement of Alexandria, specified, “the law prohibits a brother from taking usury; designating as a brother not only him who is born of these same parents, but also one of the same race and sentiments... Do not regard this command as marked by philanthropy.”

The litany of councils specifically condemning this practice as one of the most despicable sins is really impressive: the Council of Elvira (305-306AD), Arles (314), Nice (325), Cartage (348), Taragona (516), Aix-la-Chapelle (789), Paris (829), Tours (1153), the Lateran Council (1179), Lyons (1274), Vienna (1311). This last one was even more sweeping than the previous ones; any ruler who would not criminally punish anybody committing usury in his realm would be excommunicated (even if the ruler himself did not do it!). Since the practice was often concealed beneath various devices, money lenders were compelled to show their accounts to the ecclesiastical authorities. The fifth Lateran council (1512-1517) reiterated the definition of the sin of usury as “receiving any interest on money” once again.

Henry the VIII legalized interest for the first time in the Western World in 1545, after he had broken ranks with the Pope. The first time that the original doctrine was questioned within the Catholic Church itself was in 1822. A woman from Lyons, France, had received interest on money and was refused absolution unless she returned the ill-gotten gains. Bishop Rhedon requested a clarification from Rome, which responded, “Let the petitioner be informed that a reply will be given her question when the proper time comes; ...meanwhile she may receive sacramental absolution, if she is fully prepared to submit to the instructions of the Holy See.” A forthcoming resolution was promised again in 1830, and from the Office of Propaganda in 1873. This promised clarification never came. The sin of usury was never officially repealed, but was simply forgotten. The Canon Law of 1917 (Canon #1543), still operational today, makes it obligatory for bishops to invest, “As the administrators are bound to fulfill their office with the solicitude of a good father of a family, they shall invest the surplus revenue of the church to the benefit of the church.” The issue of interest is not mentioned. Later still, usury is redefined as the charging of *excessive* interest.

Estelle and Mario Carota, two Mexican Catholics, in the hope of providing relief to Latin American countries when they were reeling under the debt crisis of the 1980s, made a formal request in 1985 to the Vatican to clarify its position on usury. They were informed by no less an authority than the Office of the Congregation for the Doctrine of the Faith, headed by Cardinal Ratzinger, that there had never been a new definition of the doctrine of usury, that there has never been any change. Their attempts at finding an expert opinion among the Jesuits, Augustinians, Dominicans, Salvatorians, and even professors of moral theology in Third World seminaries teaching theology of economic justice failed to turn up anybody who remembered the forgotten Doctrine of Usury.

1. Interest indirectly *encourages systematic competition* among the participants in the system.
2. Interest continually fuels the need for *endless economic growth*, even when actual standards of living remain stagnant.
3. Interest *concentrates wealth* by taxing the vast majority in favor of a small minority.

Each of these issues will be addressed in turn.

1. Encouraging Competition

The following story from Australia illustrates the way interest is woven into our money fabric, and how it stimulates competition among the users of this currency.

The Eleventh Round

Once upon a time, in a small village in the Outback, people used barter for all their transactions. On every market day, people walked around with chickens, eggs, hams, and breads, and engaged in prolonged negotiations among themselves to exchange what they needed. At key periods of the year, like harvests or whenever someone's barn needed big repairs after a storm, people recalled the tradition of helping each other out that they had brought from the old country. They knew that if they had a problem someday, others would aid them in return.

One market day, a stranger with shiny black shoes and an elegant white hat came by and observed the whole process with a sardonic smile. When he saw one farmer running around to corral the six chickens he wanted to exchange for a big ham, he could not refrain from laughing. "Poor people," he said, "so primitive". The farmer's wife overheard him and challenged the stranger, "Do you think you can do a better job handling chickens?" "Chickens, no," responded the stranger, "But there is a much better way to eliminate all that hassle. "Oh yes, how so?" asked the woman. "See that tree there?" the stranger replied. " Well, I will go wait there for one of you to bring me one large cowhide. Then have every family visit me. I'll explain the better way."

And so it happened. He took the cowhide, and cut perfect leather rounds in it, and put an elaborate and graceful little stamp on each round. Then he gave to each family 10 rounds, and explained that each represented the value of one chicken. "Now you can trade and bargain with the rounds instead of the unwieldy chickens," he explained.

It made sense. Everybody was impressed with the man with the shiny shoes and inspiring hat. "Oh, by the way," he added after every family had received their 10 rounds, "in a year's time, I will come back and sit under that same tree. I want you to each bring me back 11 rounds. That 11th round is a token of appreciation for the technological improvement I just made possible in your lives." "But where will the 11th round come from?" asked the farmer with the six chickens. "You'll see," said the man with a reassuring smile.

Assuming that the population and its annual production remain exactly the same during that next

year, what do you think had to happen? Remember, *that 11th round was never created*. Therefore, bottom line, one of each 11 families will *have to* lose all its rounds, even if everybody managed their affairs well, in order to provide the 11th round to 10 others.

So when a storm threatened the crop of one of the families, people became less generous with their time to help bring it in before disaster struck. While it was much more convenient to exchange the rounds instead of the chickens on market days, the new game also had the unintended side effect of actively discouraging the spontaneous cooperation that was traditional in the village. Instead, the new money game *was generating a systemic undertow of competition among all the participants*.

This is how today's money system pits the participants in the economy against each other. This story isolates the role of interest—the 11th round--as part of the money creation process, and its impact on the participants.¹⁰⁸

When the bank creates money by providing you with your \$100,000 mortgage loan, it creates only the principal when it credits your account. However, it expects you to bring back \$200,000 over the next twenty years or so. If you don't, you will lose your house. Your bank *does not create the interest*; it sends you out into the world to battle against everyone else to bring back the second \$100,000. Because all the other banks do exactly the same thing, *the system requires that some participants go bankrupt* in order to provide you with this \$100,000. To put it simply, when you pay back interest on your loan, you are using up someone else's principal.

In other words, the device used to *create the scarcity* indispensable for a bank-debt system to function, involves *having people compete* for the money that has not been created, and penalizes them with bankruptcy whenever they do not succeed.

¹⁰⁸ The story of the Eleventh Round is a simplified illustration for non-economists, isolating the impact of interest on money on the system. To isolate that one variable, I have made the assumption of a zero growth society: no population increase, no production or money increases. In practice, of course, all three of these variables grow over time, further obscuring the impact of interest. The point of the "Eleventh Round" is simply that--*all other things being equal*--competition to obtain the money necessary to pay the interest, which is never created, is structurally embedded in the current system.

¹⁰⁹ Thuillier, P. "Darwin chez les Samourai" in La Recherche Number 181 (Paris, 1986) pg. 1276-1280

The interest rate decisions of Central Banks get our attention, and this is one of the reasons. The additional cost of increased interest results automatically in a proportional number of increased bankruptcies in the near future. This takes us back to the time when the high priests had to decide whether the Gods would be satisfied with the sacrifice of only a goat--or require the sacrifice of the first born son instead. Lower down on the totem pole, when your bank checks on your creditworthiness, it really is verifying whether you are capable of competing and winning against the other players, i.e., managing to wrestle out of them something that was never created.

In summary, the current monetary system obliges us to incur debt collectively, and to compete with others in the community, just to obtain the means to perform exchanges between us. No wonder “it is a tough world

out there,” and that Darwin’s observation of the “survival of the fittest” was so readily accepted as self-evident Truth by the 18th century English, as well as by any societies that have accepted, without question, the premises of the money system that they designed, such as we have today. Fortunately, we now have ample evidence that supports less harsh interpretations of the “natural world” (see sidebar).

2. Need for Endless Growth

The main simplifying assumption of the “Eleventh Round” is that everything remains the same until next year. In reality, we do not live in a world of zero growth of population, output, or money supply. In the real world, there is typically some growth over time in all these variables, and the money system just preempts the first component of that growth to pay for the interest. Even in this respect, there are long-forgotten religious precedents for this process. The “first fruit of the harvest” was ritually sacrificed as an offer to the Gods in many ancient societies.

This dynamic also makes it much harder than in our Eleventh Round story, to notice what is actually

What is “Natural”--Competition or Cooperation?

Professor of bio-sociology Imanishi from Kyoto University has shown that the Darwinian vision of nature as a struggle for life has been completely blind to the many more frequent cases of co-evolution, symbiosis, joint development, and harmonious coexistence that prevail in all domains of evolution. Even our own bodies would not be able to survive long without the symbiotic collaboration of billions of micro-organisms in our digestive tract, for example.¹⁰⁹

Evolutionary biologist Elisabet Sahtouris points out that predominantly competitive behavior is a characteristic of a young species during its first forays in the world. In contrast, in mature systems like an old-growth forest, the competition for light, for instance, is balanced by intense cooperation among species. Species that do not learn to cooperate with the other species with which they are codependent invariably disappear.¹¹⁰

Our current money system is biased towards competition. Hence the need for *complementary* currency systems, (described later) that would balance this bias by rewarding cooperation.

¹¹⁰ Sahtouris, Elisabet [Earth Dance: Living Systems in Evolution](#) (Alameda, CA: Metalog Books, 1996)

going on. Nevertheless, indefinitely compounded interest in the material world is a mathematical impossibility (sidebar).

In this dynamic view, the money system is like a treadmill that requires continuous economic growth, even if the real standard of living remains stagnant. The rate of interest fixes the average level of growth that is needed to remain at the same place. This need for perpetual growth is another fact of life that we tend to take for granted in modern societies, and that we usually do not associate with either interest or even our money system.

3. *Concentration of Wealth Effect*

A third systematic effect of interest on society is its continuous transfer of wealth from the vast majority to a small minority. The wealthiest people and organizations own interest-bearing assets. They receive an uninterrupted rent from whoever needs to borrow in order to obtain the necessary medium of exchange. The best study on the transfer of wealth via interest from one social group to another was performed in Germany during the year 1982, when interest rates were at a low 5.5%.¹¹³ All Germans were grouped in 10 income categories of about 2.5 million households each. During that one year, transfers between these 10 groups involved a total of gross total of DM 270 billion in interest payments received and paid. A stark way for presenting the process is to graph the net effect in the form of the *net* interest transfers (interest gained *minus* interest paid) for each of these 10 household categories (see Fig 2.2)

***Joseph's Penny or
the Impossible Mathematics of Compounded Interest***

Indefinitely compounded interest in the real world is a mathematical impossibility. For example, one US penny invested at 4% compounded interest by Joseph at the birth of Jesus Christ, would have grown by the year of the American independence to the value of one ball of gold of half the weight of the earth.¹¹¹ By today it would have compounded further to the value of 2,252 balls of gold of the weight of the earth.

Compounded at 5%, Joseph's penny would buy by 2002 an incredible *470 billion balls of gold of the weight of planet earth!!!*

¹¹¹ This calculation assumes the price of gold at \$300 per ounce (a generous price in 2001-2002), or about \$9,375 per kilo. The weight or mass of the earth is 5,973 kilos followed by 21 zeros. The value of Joseph's investment at 4% at the year of the American independence would have been \$29,692 million trillion, or \$29,692 followed by 24 zeros

¹¹³ Kennedy, Margrit *Interest and Inflation Free Money* (Okemos, Michigan: Sava International, 1995) pg. 26 Also German edition

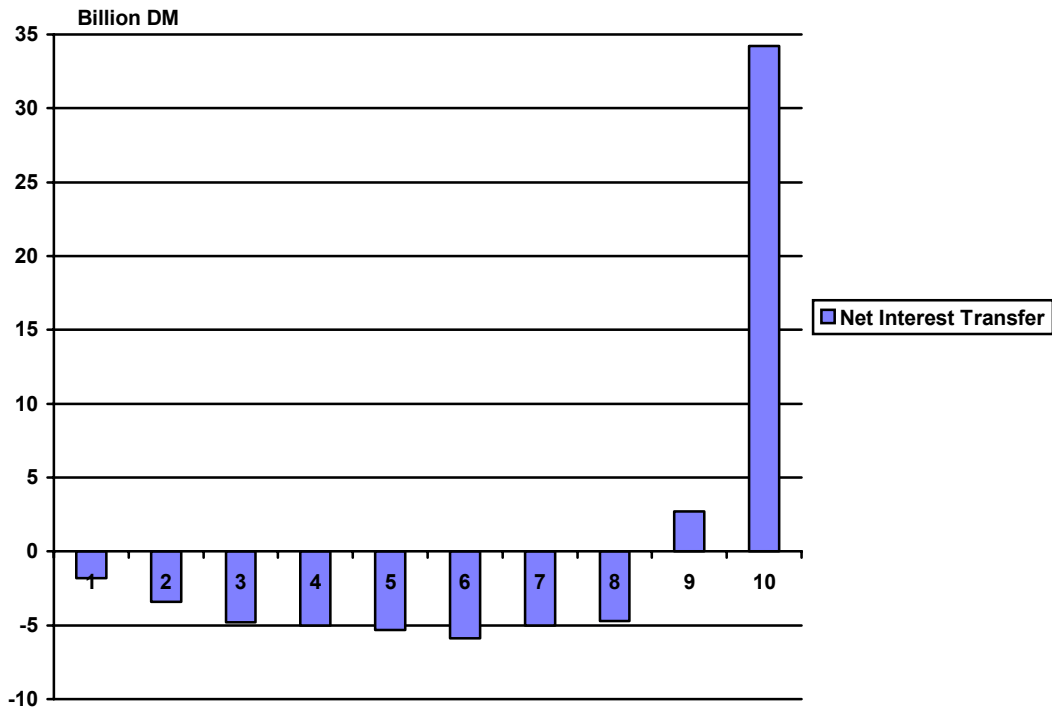


Figure 2.2 Net Interest Transferred (billion DM) for 10 groups of households of 2.5 million each (Germany - 1982) [NB: Editor: graphic art should replace the bars with a pile of coins]

The highest interest transfers occurred from the middle class (categories 3 to 8) which each transferred about DM 5 billion to the top 10% of the households (category 10). Even the lowest income households (category 1--which one would expect not to have easy access to credit) transferred DM 1.8 billion in interest per year to the highest group. The net effect is that the top 10% of households received a net transfer of DM 34.2 billion in interest from the rest of the society during that one year.

This graph clearly shows the systematic transfer of wealth from the bottom 80% of the population to the top 10%. This transfer was due *exclusively to the monetary system* in use, and is completely independent of the degree of cleverness or industriousness of the participants--the classic argument to justify large differences in income.

I have not found a study on interest transfer between different segments of society in the US, but the census provides an idea of total income redistribution that has occurred over the past 20 years. The overall results are even more acute than in the German case. Unfortunately, the available data in the US does not allow for isolation of the component of interest transfer in the income redistribution. The information in Figure 2.3 commingles the interest paid and received with all other forms of income, such as rents or dividends. John F. Kennedy's thesis that "a rising tide raises all boats" is not supported by this data. At the very least, all boats are not raised equally.

The only group that has increased its percentage of overall income in the US over the past 20 years is the top 5% of the households. For all practical purposes, the next 15% held its own. All other groups have seen a *decrease* in their piece of the national pie. Graphing the *net* changes in income between 1975 and 1995 drives this point home (see Figure 2.3). Between 1975 and 1995, the combined income of all US households rose from \$2.7 trillion to \$4.5 trillion in constant 1995 dollars. But the benefits of this growth were not the same for all, given that the top 5% increased its average income by a whopping 54.1%, absorbing thereby the bulk of the new growth, mostly at the expense of the middle 60% of the population.

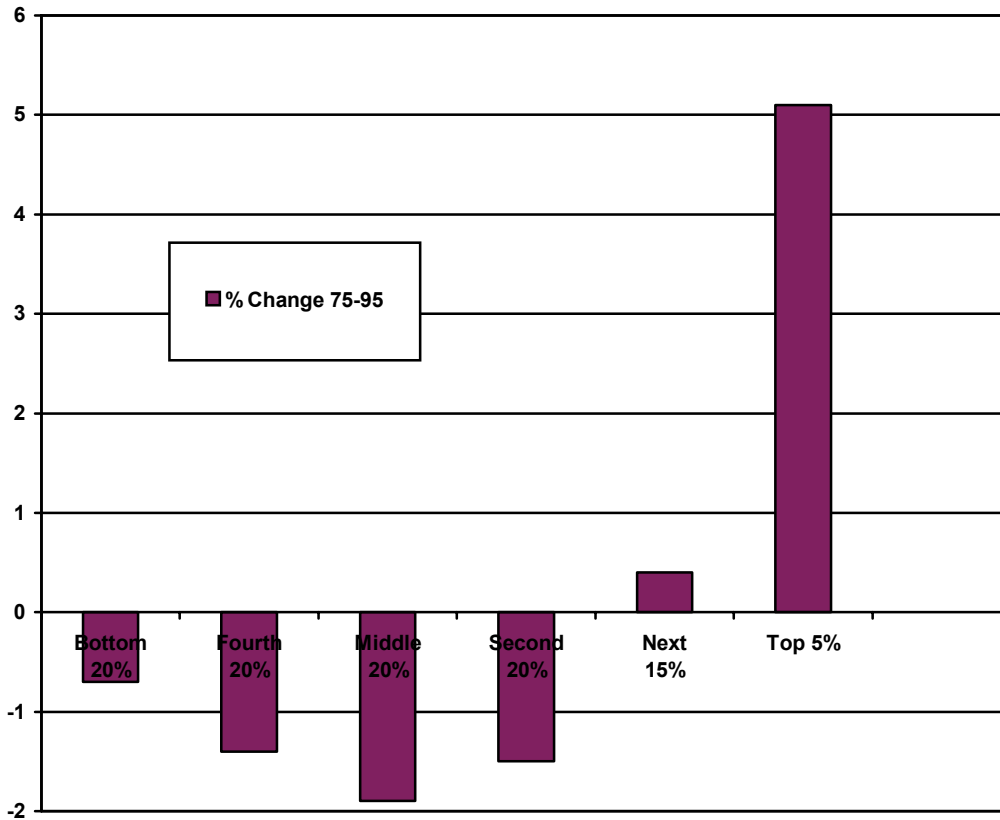


Figure 2.3 Percent Change (1975-95) of the Share of Income of US households by income group (in constant dollars).¹¹⁴

The cumulative result of this process explains the striking imbalance in US wealth distribution. Financial wealth, by definition, is the accumulation of income over time. The final outcome is an accentuation of the imbalances in wealth distribution. For instance, “the top 1% of Americans has

¹¹⁴ Hacker, Andrew Money: Who has how much and why ? (New York: Scribner, 1997) pg. 17 data derived from the US Census.

now more personal wealth than the bottom 92% combined.”¹¹⁵ This process of concentration keeps occurring on all levels. For instance, the assets of the tiny group of the top 500 families in the US rose from \$2.5 to \$5 trillion between 1983 and 1989.¹¹⁶ Globally, the world’s 447 billionaires have agglomerated financial assets greater than the combined annual income of over half of the world’s population.¹¹⁷

The Really Big Picture

Evolutionist Steven Jay Gould calls the “Great Asymmetry” the remarkable ability of evolution to create a bit more, on the average, than it destroys. The biosphere is cumulatively creating complexity and growth, which runs in the opposite direction than entropy in physics. The human species’ way to engage in this “Great Asymmetry” has been the economy.¹¹⁹

Within this grand scheme of things, money is the evolutionary information system that accounts for the human contribution to this “Great Asymmetry” It plays the role of a social DNA. The Modern Age gave birth to a money system that enforces its ideal of continuous economic progress under hierarchical, controlled, centralizing conditions.

Changes in the DNA play a superficially invisible but vital role in mutations and evolution. Similarly, changes in money have the potential to deeply re-shape the values and priorities of the Post-Modern, Post-Industrial world.

The top three billionaires own now more wealth than the combined GDPs of 48 poorest countries in the world.¹¹⁸ And it is expected that 60% of all purchasing power within the US will be in the hands of millionaires by 2005.

Was it a concern for social justice and stability that previously motivated all three major religions--Judaism, Christianity, and Islam--to unanimously prohibit the practice of charging interest?

It is intriguing that after interest became officially legal, almost all countries have felt the need to create income redistribution schemes to counteract at least part of this process. Some of them, such as the welfare system and progressive taxation, are increasingly being criticized for their ineffectiveness. Is this the fault of the overly efficient money system, or of the inefficient redistribution schemes? Or both?

What next?

The three side effects of interest--competition, the need for perpetual growth, and wealth concentration--are the hidden engines that have propelled us into and through the Industrial Revolution. *Both* the best and the worst of what the Modern Age has achieved can, therefore, be indirectly attributed to these hidden effects of interest--the apparently banal feature of our officially

¹¹⁵ Source: Project Responsible Wealth 37 Temple Place, Boston MA 02111

¹¹⁶ Meadows, Donella “Wealthy stand up for greater equality” Bennington Banner (November 1997).

¹¹⁷ Korten, David: “Money versus Wealth” YES! A journal of Positive Futures (#2 Spring 1997), pg 14 . This number is based on a study performed by Sarah Anderson and John Cavanagh for the Institute for Policy Studies (1996).

¹¹⁸ Gates, Jeff The Ownership Solution (Boulder: Perseus Books, 1998)

¹¹⁹ Kelly, Kevin New Rules for the New Economy (New York: Viking, 1998) pg 141

prevailing money system.

There is a growing consensus that the Industrial Age is dying. We have begun navigating the uncharted waters of the Information Age. Curiously, unnoticed by mainstream media and academia, new monetary experiments have already started to thrive in a dozen countries around the world. My view is that these innovations offer realistic possibilities for gradually correcting the excesses and imbalances of the current system without revolutions or violence. Even more important, these new complementary currencies, operating in conjunction with the dominant national money system create new wealth, both financial and social. They also have already proven that they address some of our most urgent social issues without requiring either taxation or regulation. It is no coincidence that these new currencies typically do not share any of the four obvious characteristics of the national currencies described above. For instance, they specifically do not involve interest.

It is worth remembering what John F. Kennedy remarked

*“Those who make peaceful revolution impossible
will make violent revolution inevitable”*

Chapter 3: Cybersphere--The New Money Frontier

*“Money has evolved from shells to green paper
to the artful arrangement of binary digits.”*

Dee Hock, Chairman VISA, 1968¹²⁰

quoted by Mayer, Martin [The Bankers: The Next Generation](#) (New York: Truman Talley Books/Dutton, 1997 pg. 129

***“The real voyage of discovery consists not in seeking new landscapes,
But in having new eyes.”***

Marcel Proust

***“Confusion is the word we invented to refer to an order
we don’t yet understand. “***

Henry Miller

In less than two decades, what Daniel Bell originally called the Post-Industrial Society is now commonly referred to as the Information, Knowledge or Communications Age. As information becomes our critical resource, there are sweeping implications not only for our economy, but also for the very fabric of our society.

We saw that our oldest information systems are money systems (chapter 1) -- remember, even writing was initially invented to record financial transactions. So it is no surprise that money is again on the forefront in computerized cyberspace.

We can expect fundamental changes not only in payment systems for conventional currencies, but also the emergence of new *types* of money.

Post-Industrial Society=Knowledge Age

In the 1940s, IBM’s first Chairman, Thomas Watson, predicted a world market for “maybe five computers.” By 1975, about 50,000 were operating, and in 1997 more than 140 million.¹²¹ There are an additional 170 million computers-on-a-card currently in use worldwide,¹²² as well as the innumerable “invisible computers” that are built into routine appliances--a typical car today contains more computer-processing power than the first spacecraft that landed on the moon in 1969.

The reason for this explosive proliferation is simple: never before has the world seen as dizzying a

¹²¹ The Economist (September 28, 1969): Survey of the World Economy pg 3-4

¹²² Estimate by John Gage, Chief Scientist at Sun Microsystems. He also estimates that the number of smartcards will rise to 600 million by 1999.

drop in the price of an industrial product. We have gotten used to the idea that today's \$2,000 laptop packs more power than the \$10 million mainframe of 20 years ago. If car efficiency and costs had followed the same trend, you would now drive coast-to-coast across the US on a fraction of a drop of gasoline in a car costing less than one dollar.

When steam power was introduced, it was not much cheaper than water power, and it took from 1790 to 1850 for its real price to be cut in half.¹²³ Likewise, it took between 1890 and 1930 for the price of electricity to drop by just over half.¹²⁴ In contrast, the cost of computing power halves every 18 months. Named after the President of Intel, "Moore's law" actually describes an even more impressive rate: every 18 months, computational speed doubles *and* the price drops by half.

¹²³ von Tunzelman G.N. Steam Power and British Industrialization to 1860 (Oxford: Clarendon Press, 1978).

¹²⁴ The Economist (September 28, 1969): Survey of the World Economy pg 10

Just one facet of it--the Internet--is the topic of an estimated 12,000 articles *per month* in the US press alone, and this does not even include what is written about the Internet on the Internet. Never before has any technological shift been heralded by such an information avalanche. George Gilder calls it “the biggest technological juggernaut that ever rolled.” Bill Gates claims that “the benefits and problems arising from the Internet Revolution will be much greater than those brought about by the PC revolution.” It is worth repeating again that what drives the change are the gigantic drops in costs and speed not only in computer chips but also in communications in general (see sidebar).

Although skepticism is healthy when we are faced with this much hype, this Revolution could yet prove to be a real one. That is clearly the opinion of the stock market: by early 1997 the combined stock market value of Microsoft and Intel (\$274 billion) comfortably exceeded the combined value of General Motors, Ford, Boeing, Eastman Kodak, Sears, JP Morgan, Caterpillar, and Kellogg (\$235 billion). Internet stocks, such as Amazon.com or Ebay have yet to earn a dollar in profits, but are nevertheless valued in the billions. Yahoo by itself is valued at \$30 billion as of January 1999, double of the stockmarket value of J.P. Morgan.

Comparing Communication Costs

- Sending a 42-page document from New York to Tokyo normally takes five days by airmail and costs \$7.40.
- You can get it there faster, but at a much higher cost: a courier delivers it in 24 hours for \$26.25; or with a fax-machine in 31 minutes for \$28.85.
- Compare all that with the email alternative of two minutes and a cost of 9.5 cents. No wonder Internet traffic *doubles every 100 days!* If you read this text end 1999, during the time you have finished reading this sentence, ten million emails will have been sent
- In 1980, telephone copper wires could carry one page of information per second. Today, one thin strand of optical fiber can transmit 90,000 volumes in one second. The drop in communication costs will further accelerate as the available bandwidth grows
- High-capacity, high-speed transmission networks are in the process of creating a “Broadband Kingdom” where it will be cost-effective to leave the Internet “always on” at work and/or at home. Various technologies compete with fiber optics to create this world, including high-speed data delivery systems via television cable distribution, digital subscriber line technologies (DSL) which enable dramatic speed increases on traditional copper telephone wires, satellite operators, and wireless networks. All this competition means that the cost of data communications will continue to drop dramatically in the foreseeable future.ⁱ

Whole libraries are being written about the gee-whiz technologies involved. The focus here will be only on the *meaning* of this Information Revolution and the *opportunity* it represents for *choosing*

our money systems in the near future.

To help us navigate this material, this chapter is organized under the following five headings:

- The Nature of Information
- Implications for the Economy and Society
- Implications for Money
- Implications for Banks and Financial Institutions
- Wisdom in the Information Age?

The Nature of Information

The power structure of every economic system has been designed to control some critical resource. Information, the raw material for creating knowledge, is the next likely candidate for that role. “As far into the future as we can see, information will be playing the *prima donna* role in economic history that physical labor, stone, bronze, land, minerals, metals and energy once played.”¹²⁵

As information becomes that key resource, its unique features will shape a very different society. For our purposes, Harlan Cleveland¹²⁶ and Howard Rheingold¹²⁷ have made the best inventories of those characteristics:¹²⁸¹²⁹

- Information is *shared, not exchanged*. With any of the previous focus resources--from a flint spear-point to land, from a horse to a barrel of oil--if you acquired it from me, I lost it to you. After an exchange that involves information, *both* of us have it. In buying this book, for instance, or a magazine or permission to access a database, it may look as if a traditional exchange has occurred. However, what is bought, sold, and then owned, is the delivery mechanism, not the

¹²⁵ Cleveland, Harlan “Fairness and the Information Revolution” *World Business Academy* (Vol. 11 no. 2, 1997)

¹²⁶ Cleveland, Harlan: *Leadership and the Information Revolution* (Minneapolis: World Academy of Art and Science, 1997) ; and *The Knowledge Executive: Leadership in an Information Society* (New York: Truman Talley Books/ E.P. Dutton, 1985)

¹²⁷ Rheingold, Howard *Virtual Reality and Virtual Community* (New York: HarperPerennial, 1993)

¹²⁸ Cleveland, Harlan: *Leadership and the Information Revolution* (Minneapolis: World Academy of Art and Science, 1997) ; and *The Knowledge Executive: Leadership in an Information Society* (New York: Truman Talley Books/ E.P. Dutton, 1985)

¹²⁹ Rheingold, Howard *Virtual Reality and Virtual Community* (New York: HarperPerennial, 1993)

information. Even after it has been shared with the buyer, the message delivered is still retained by the seller. When you use software, you are not stopping millions of others from using it also, as was the case with the key resources of the past. As a consequence, information is what economists call a “*non-rival*” product.

- The most powerful catalyst of the transformation is not information but the *communications revolution*. Over the past decade, the total electronic communications worldwide have increased by a factor of four. However, during the *next* decade, we should expect another multiplication, this time by a *factor of 45!*¹³⁰ Communicating information literally multiplies its power. Telecommunications has made information *transportable*. It travels through electronic networks at almost the speed of light and for a very low cost. The nature of information, therefore, is that it tends to *leak*. The more it leaks, the more of it we have, and the more of us have it. Government classifications, trade secrecy, intellectual property rights, and confidentiality are all attempts at artificially reducing this natural tendency to leak. Increasingly, these artificial attempts are failing because the actual information cannot be ‘owned,’ but only the conduits of its delivery system. Although he admits to still searching for a patent lawyer willing to agree with him, Cleveland sees “the expression ‘intellectual property’ as an oxymoron, a contradiction in terms.”¹³¹
- As a consequence of the two points above, information *expands* as it is used. Information spontaneously tends toward abundance, not scarcity. In one way, this is fast becoming a drawback: we all complain about information overload. What remains scarce and competitive is human attention, and our ability to understand, turn into knowledge, and use all the information available to us.
- As an ideal possibility, conventional economic textbooks describe the theory of “perfect competition.” This theory works from the assumption that all parties have all the information relevant to optimize a given purchase, that there are zero transaction costs, and no barriers to entry for new suppliers. In “real” world transactions, these conditions are rarely met. Interestingly, the cybereconomy could become the first actual large-scale “*near-perfect market*”. Information can definitely be more abundant and accessible to more people in cyberspace. The

¹³⁰ Remarks by Ted Hall, Director of Mc Kinsey and Co, at the State of the World Forum, San Francisco November 1997.

¹³¹ Ibid. Pg 9

Net makes transaction costs lower than ever. And many of the usual barriers to entry, such as location, capital requirements, etc., are less applicable. Because comparison-shopping is so easy on the Net, it promises to be a fiercely price-sensitive market. Even so, the emerging market environment of the Information Age seems to conform perfectly to conventional economic theory.

- In other important respects, information economics sets traditional economic theory completely on its head. One breakthrough is the realization that information and knowledge are the only factors of production not subject to the law of diminishing returns.¹³² They, in fact, enjoy a law of *increasing returns*.¹³³ In practice, this means that as information becomes more available, it also becomes *more valuable*. This has also been called the “fax effect.” Imagine that you have bought the first fax machine ever produced. What is the value to you of that device? Practically nil, because there is no one else with whom to communicate at that point. However, every newly installed fax machine *increases* the value of your fax machine. This is *an exact reversal of traditional economics*, where scarcity determines value. For instance, gold or diamonds, land or any other traditional commodities are valuable because they are scarce.

Figure 3.1 shows the conceptual relationship between resource and use in three different types of systems: physical, biological and information systems.

¹³² This law dates back to agricultural economics. It points out that whenever one applies an additional input such as fertilizer or labor to a given plot of land, each additional ton of fertilizer or worker-hour will produce less benefit than the previous one. At a certain point, too much fertilizer or labor will actually reduce the output.

¹³³ Arthur, Brian: “Increasing Returns and the Two Worlds of Business” Harvard Business Review (July 1996).

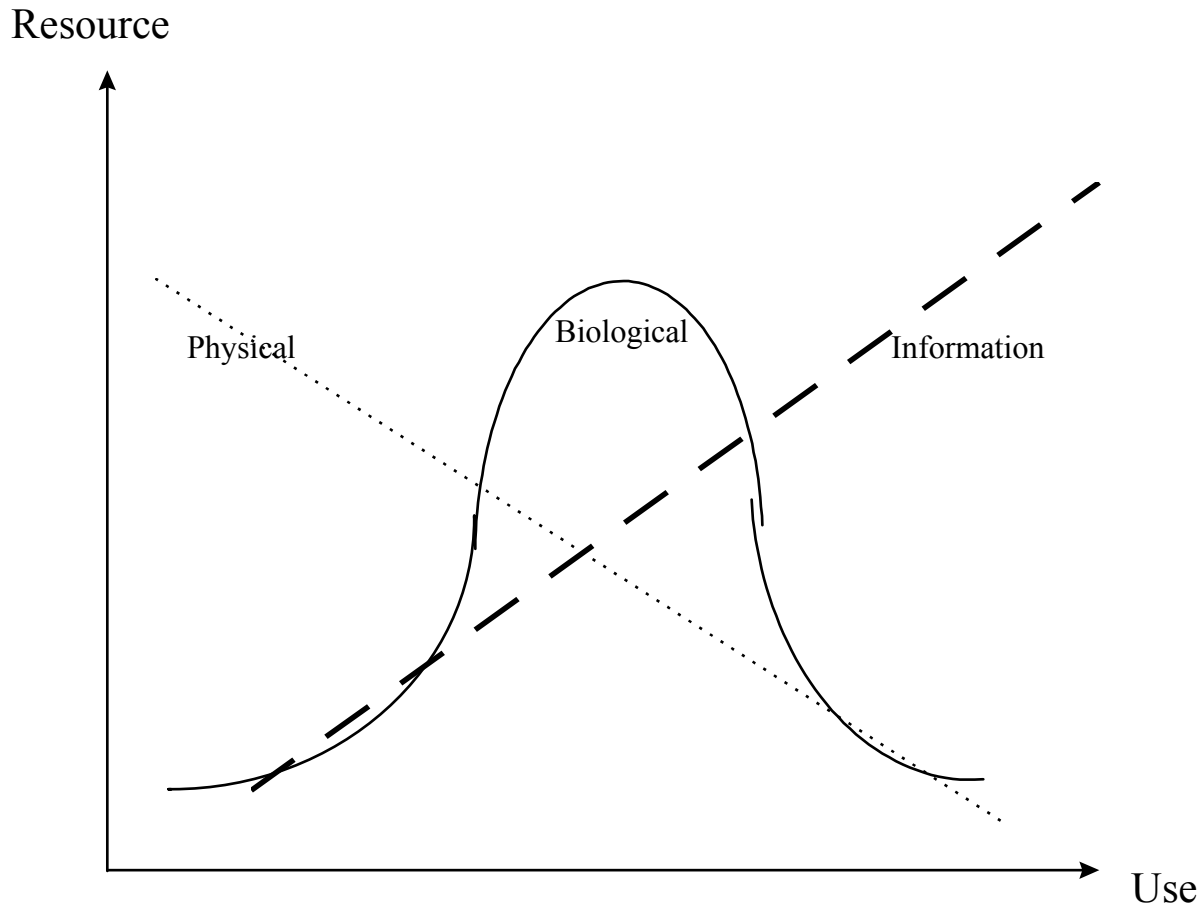


Figure 3.1 Relationships between Resource and Use for physical, biological and information systems

Economic theory has been on the basis of observation of the physical/material realm where a resource is reduced by use. The challenge is to develop a framework which can also take into account realities where the resource either changes with use (biological systems) or *increases* with use (information systems).

Implications for the Economy and Society

What are the consequences of these characteristics for a society that uses information as its primary economic resource? First, such an economy is literally *dematerializing*. In 1996, Alan Greenspan noted: “The US output today, if measured in tons, is the same as one hundred years ago, yet the GDP¹³⁴ has multiplied by a factor of twenty over that time.” The average weight of one real dollar’s

¹³⁴ Gross Domestic Product

worth of US exports is now less than half of what it was in 1970. Even in “manufactured” goods, 75% of the value now consists of the services imbedded in it: research, design, sales, advertising, most of which could be “delocated” anywhere in the world and transmitted via high-speed data lines. Along with the other factors, this dematerialization process makes it much harder for governments or regulatory agencies to measure, tax or regulate what is going on. For instance, the French government will find it more difficult to keep US media products out of France using import controls when these products can be channeled through satellite TV or the Internet. The switch to information-as-resource means that governments are less able to intervene in (or muck up, depending on your viewpoint) the high-speed train of social transformation that is headed our way.

The Positive Forces

Harlan Cleveland states most succinctly the positive implications:

“A society suddenly rich in information is not necessarily fairer or more exploitative, cleaner or dirtier, happier or unhappier than its industrial or agricultural predecessors. The quality, accuracy, relevance, and utility of information are not givens. They depend on who uses this new dominant resource, how astutely, for what purposes. What *is* different is that information is, in all sorts of ways, more *accessible* to more people than the world’s key resources have ever been before.

It was in the nature of *things* that the few had access to key resources and the many did not. The inherent characteristics of physical resources (natural and human-made) made possible the development of hierarchies of *power based on control* (of new weapons, of energy resources, of transport vehicles, of trade routes, of markets, and especially of knowledge); hierarchies of *influence based on secrecy*; hierarchies of *class based on ownership*; hierarchies of *privilege based on early access* to particular pieces of land or especially valuable resources; and hierarchies of *politics based on geography*.

...Each of these five bases for hierarchy and discrimination is crumbling today because the old means of control are of dwindling efficacy. Secrets are harder and harder to keep, and ownership, early arrival, and geography are of declining significance in accessing, analyzing and using knowledge and wisdom that are the really valuable legal tender of our time.

...In the agricultural era, poverty and discrimination were explained and justified by the shortage of arable land. Women and strangers could hardly be expected to share in so scarce a resource.[...]In

the industrial era, poverty was explained and justified by shortages of things: there just weren't enough minerals, food, fiber and manufactures to go around.

...Theoretically at least, compared to things as resource, information-as-resource should encourage:

- The spreading of benefits rather than the concentration of wealth (information can be more readily shared than petroleum, gold or even water)
- The maximization of choice rather than the suppression of diversity (the informed are harder to regiment than the uninformed).¹³⁵

The Negative Forces

Paradoxically, the dynamics of information economics could also create an unprecedented concentration of power in the hands of a very few Information Age billionaires; business barons who bare scant resemblance to those who created wealth during the Industrial Age. Some people foresee the spread of a “Winner-Takes-All” economic environment.¹³⁶ The trend toward increasingly exorbitant compensation for the very few at the top has been notorious. It started with movie stars, entertainment and sports heroes, and spread over the past decade to high-performance CEOs, traders, lawyers, and doctors. Is this just a strange shift in societal values, or is this *also* a consequence of deep-seated forces in the information economy?

The “network economist” Brian Arthur claims that positive marginal rates of return can propel some corporations into an almost impregnable monopoly. For instance, once a particular software moves toward becoming an industry standard, it will tend to automatically crowd out competitors until it captures 100% of the market. Microsoft's dominance in the PC software market is often cited as an example of this process in action. Are we inaugurating an era where de facto monopolies can emerge more easily than in the traditional Industrial economies? Have anti-trust laws designed for the Industrial Age become ineffective in cyberspace?

¹³⁵ Cleveland, Harlan “Fairness and the Information Revolution” in Perspectives on Business and Global Change (Volume 11 number 2, World Business Academy) [all italics in original].

¹³⁶ Frank, Robert and Cook, Philip: The Winner-Takes-All Society (Free Press), see also the seminal 1981 article by Rosen, Sherwin “The Economics of Superstars.”

Or are these compensation flare-ups and new types of monopolies just a last gasp of the transition out of the Industrial Age? This is something like what happened to skilled weavers at the beginning of the industrialization process: their incomes soared after spinning was mechanized, only to crash when new machines replaced their own skills later on. This is what MIT economist Paul Krugman claims is going to happen. Take the case of high-priced actors: Mirage Entertainment Sciences describes itself as the first “Posthuman Talent Agency.”¹³⁷ Its first “synthetic image actor,” a blond and buxom beauty named Justine and produced on a CAD called Life F/x., is already available. “We are even able to wrinkle the skin so it behaves like real tissue,” says Ivan Gulas, the Harvard clinical psychologist who is shaping the new actress for Hollywood’s purposes. Today’s actors may suddenly find themselves competing with Marilyn Monroe or Humphrey Bogard, or even a new “ideal” synthesis of several of the best actors of all times. Similar early inroads being made in other high paying jobs: for example, robots that perform hip-replacement surgery; expert systems that plan your will or prepare and file your tax returns. The first successful adaptive neuronet applications that replace currency or bond traders are being implemented because “humans cannot keep up with the high speed of these information-dependent systems.”

In short, nobody should believe that they will remain forever immune to Information Age obsolescence. All should be interested in a society that is viable for everybody. After all, we are only making the opening moves in the new global Information Age chess game, and nobody really knows how the game will unfold.

¹³⁷¹³⁷ Wired (November 1997) pg 202

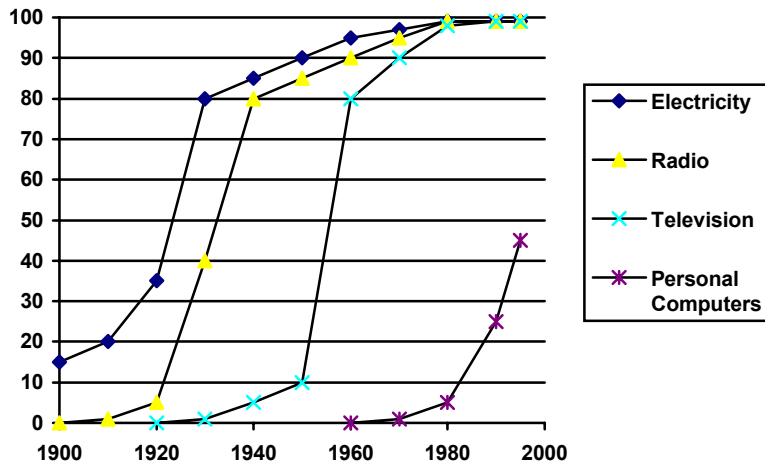


Figure 3.1 Curve of Adoption of New Technologies in the US (Source: IBM)

Given that this are still early days at this point, and that the implications of the Information Revolution entail two paradoxically opposing trends, what will be the final outcome? There is definitely room here to project any one of our favorite dreams *and* nightmares, and we will do some of that in the next chapter. Samuel Becket’s tease comes to mind: “Everything will turn out all right-unless something foreseen happens.”

Distribution and Retail

The Net is already completely altering the economics of the gigantic distribution and retail sector, by far the largest employer. In cyberspace, more and more people are comparison shopping and purchasing at wholesale prices, with no more effort than clicking a mouse. *Instead of a retail economy with physical processes, we are already well on our way toward a wholesale economy with digital processes.* In other words, the old way consisted of physically moving a product from manufacturer to wholesaler, and then to the retailer and finally to the consumer. In the new way, the middleman deals only with information, makes it available to the consumer in a palatable form, then communicates orders back to the manufacturer, who ships the merchandise directly to the consumer (the Cendant case study in Chapter 4 explains this process in detail). Although one should not necessarily conclude that this means the demise of the small personalized retail operations (sidebar). In any case, in such a switch, nothing remains the same. For example, the prices charged to the consumer can be radically different.

Internet and the Power of the Small

Internet does not necessarily mean the take-over by giant cyber-merchants. For instance, it may make possible for small specialty shops to better compete with the giant retail chains. One example of such a process can be found in high-quality audio systems. The associations of small retailers specializing in high-end audio products called PARA¹³⁸ have used the Internet to regain leadership as trendsetters in the industry. 300 members of PARA cooperated to create the most sophisticated comparative databases of all the equipment available on the Net, as well as new tools to better customize systems to client requirements, or continuous on-line training courses for their staff. Large chains compete best on price for commodity-type products, exactly aspects which the Internet is unbeatable. In contrast, neither the chains nor Internet vendors can provide the personalized product information, customer service, product demonstrations, and local repair services that small specialized shops can provide. PARA is taking advantage of the Net to foster cooperation among its members, provide better tools and training for their employees to reinforce their capacity to customize. They thereby reinforce their differentiation with both the large chain and Internet vendors. Is this a case of David gaining over Goliath thanks to better use of new tools?

Cheaper than Wholesale?

The following example provides a taste of things to come¹³⁹. You can buy the Virtual Vegas Turbo Blackjack computer game in a store at \$29.95 or download it from the Net for \$2.95 (*one tenth* of its “normal” retail price.¹⁴⁰ The CEO of Virtual Vegas, David Herschman, has figured out that, even with this drastic price reduction for the Net, he still makes more money on a Net sale than on a retail

¹³⁸ Jacobs, Garry ; Macfarlan, e Robert & Mira International PARANeering ub Cyberspace: Opportunity of the Millennium (PARA: 11 E 22d Street, Lombard, IL 601 48) 1999.

¹³⁹Hilzenrat, David S. “Change is Good, they Bet” and “Fewer Middlemen, Bigger Margin” in (October 21, 1997) pg 13. “Change is Good, they Bet” and “Fewer Middlemen, Bigger Margin” by David S. Hilzenrat. The Washington Post.(October 21, 1997) pg. 13.

sale. Each \$29.95 CD ROM version of the game has to pay for the retailers' and distributors' share; for the production, packaging and shipping costs; for sales commissions and unpaid accounts. After all this, the income to Virtual Vegas is \$4.50, out of which Herschman pays for his own staff and the infrastructure to manage distribution middlemen and production steps. In contrast, each \$2.95 copy of the game paid for with CyberCoin and delivered over the Net costs him only 26 cents, yielding a \$2.69 profit. At the Web price, many more copies will be sold. Herschman summarizes: "The profit margin on the Web is huge. We make it once and....we could sell that from here to eternity."

Nor is this the end of the cost compression game: Digital Equipment Corporation is launching its Millicent payment product to compete with CyberCoin, promising to further reduce the costs of a Web transaction from 26 cents to the order of 0.1 cent (yes, one tenth of a cent!). Other companies, such as Citibank, Verifone, and Microsoft are all known to be developing similar products, ensuring that these costs will remain *really* low.

New Yorker Cartoon "e-shopping"

New Products?

Even so, it would be a mistake to look at the cybereconomy as an unusually cost-effective new wholesale marketing outlet, or as a very special and fast growing export "country" for existing products. It also promises to make possible totally different products. For instance, the new micro-payment technologies already offered by CyberCash make it economically interesting to "unpack" products that we have always purchased as a unit. One could charge a very small fee for providing exactly what the consumer specifies. Instead of buying a whole cookbook, a magazine, a CD or even a newspaper, for a few cents, you could order only the sections, articles or songs that you really want.

The next Gutenberg revolution?

Purported to be the largest bookseller in the world, Amazon.com does not have a single bookshop. It started operations in 1994, and recorded sales of \$16 million in 1996. In 1997, it sold \$148 million worth of books, and in 1998, a staggering \$460 million. Over two million titles are available at any

time with the click of a mouse. Some people would like to extrapolate such dizzying trends forever; as of November 1998, the Amazon.com stock market valuation was \$6.3 billion. In 1998, the largest publisher the world, Bertelsmann of Germany, decided to acquire Barnes and Noble's Internet shop so it could directly partake in the electronic fray.

However, the real Internet book revolution is still invisible in the market place. Patents have been issued for a thin-leafed "electronic book." Such an "e-book" looks like a normal book with a few hundred paper-thin pages, but each "intelligent" page is controlled by its own computer chip and covered with millions of microscopic two-toned particles. The book's "spine" hides the chips, power and connection plugs needed.¹⁴¹ Unlike a computer screen, you can flip to any page back and forth, and remember where you were. It is totally flexible, and infinitely reusable. This all-purpose e-book can be loaded with any content as needed, and the resolution is better than the text you are currently reading. Different formats are available: from newspaper to paperback-size, from kid-proof to waterproof. You can throw your e-book in your backpack, read it on the bus or the beach--it is more rugged than the book you hold in your hand.

This is a second Gutenberg revolution in the making, where *everybody* can become an author and sell their book for the price of today's royalties. Bookshops could become mostly coffee shops, where one compares notes and tips about the most interesting websites that provide detailed ratings on the infinite supply of "publications" available. For people who prefer good old traditional paper books, a printer-binder--located in the corner of the "book-shop," at the Post Office, or at Kinko's--could even prepare such paper-books to order. They could be hardcover or paperback, large or small print, with everything always "in stock," exactly when the customer prefers it. The first "print-on-demand" (POD) book was demonstrated at the 1998 "Chicago Book Expo." The time between the moment the book is ordered and handed to the customer is less than five minutes. And it can be sold at the same price as a mass-produced book,. During these five minutes, the book is downloaded, printed, and bound, producing an exact clone of the normal edition.¹⁴² Is this another nightmare or dream in the making? Another example of an industry (publishing) hit by the information

¹⁴¹ Platt, Charles "Digital Ink" in *Wired* (May 1997) pg 162-165

¹⁴² These POD presses are currently owned by Ingram Book Company, the largest book wholesaler in the US. Their first application is to produce copies of out-of-print books, several hundred of which were already available in the summer of 1998. Optimists see this as a way to keep books from going out of print. Pessimists see the risk of having many books never produced in "the normal way."

revolution? Another sign that an age is dawning where we will breathe life into Cleveland's vision of increased choice and the democratic availability of information as the key resource?

Implications for Money

An inscription in the lobby of New York's Library of Science, Industry and Business reads: "Information about money has become almost as important as money itself." The quote is from Walter Wriston, ex-Chairman of Citibank. He should know. Under his guidance and that of his successor, Citibank became the biggest investor of all banks in Information Technology (\$1.75 billion in 1995).

Money was one of the first domains to enter the Information Age. Most financial transactions have been computerized for decades. Most of your own money is likely to reside in a bank or brokerage account, i.e. in a computer somewhere. *The development of the cybereconomy simply means that other aspects of economic activity are finally catching up with money in cyberspace.*

Payment Systems

In turn, the rise of commerce on the Net is sparking off a whole new wave of money applications. The expected bonanza is huge--the land-rushes of Oklahoma were puny by comparison. By the end of 1997, 70% of the Fortune 1,000 corporations were ready to do business on the Net. The 1998 e-commerce Christmas season boom confirmed that the cybereconomy has all the makings of the fastest growing economy in the world.

Price Waterhouse estimates that by the year 2000, the number of Netizens will have soared to 168 million, and that they will buy some \$175-200 billion of goods and services on the Net. Forrester Research's survey of business executives resulted in forecasts that the Internet trade among businesses alone will reach \$300 billion by 2002. The market research company International Data estimates that the Internet economy—which includes online shopping, business-to-business purchasing and advertising--reached \$200 billion in 1998, and will soar to \$1 trillion by 2002. No wonder everybody is interested in creating cyber-payment services.

The implications of all this are hard to fathom. For some businesses, the Net has already become their biggest single distribution outlet. For example, Best Western's website generated 48,000 hotel

nights for a value of \$3.5 million in 1996. The website for Dell Computers registered a *daily* sales volume of over \$1 million in the first quarter of 1997 with peaks of \$6 million per day during the holiday seasons. Cisco's website cashes in on over \$2.3 million on an average day. Such a website is a distributor's dream: a retail outlet with no rental costs, no employees, not even a light bulb is needed; the customers fill in their own orders and pre-payment slips; and orders roll in 24 hours a day, 365 days per year. In addition, corporations can skip all intermediaries and eliminate the cost of keeping inventories of finished products--they manufacture and ship directly to the specifications of the order placed on the Net.

New Money

The *real* revolution of possibilities unleashed by the Information Age will start manifesting when different *kinds* of currency follow the same electronic path that the national currencies are now blazing. One example of the such creativity was demonstrated in the UK by the Tesco Clubcard (sidebar). But the blurring is even deeper than that. We have now already

The Case of the Retailer Turning Banker: the Tesco Clubcard¹⁴³

Tesco, one of UK's largest retailers introduced a remarkably successful loyalty program that forced rival retailers to follow suit. The Tesco Clubcard is even credited with helping Tesco overtake rival Sainsbury as the UK's most successful retail chain.

Tesco Clubcard members earn one "point" for every Pound spent. These "points" are consolidated in vouchers and product specific coupons. In 1998, this helped Tesco increase customers by one third during the year. One in three UK households now are members and their *Clubcard* magazine is Europe's largest circulation customer magazine.

Since 1999, the scheme also provides a "key" for each 25 Pound transaction. With 100 keys, customers get a discount of up to three-quarters off the normal price on Clubcard deals.

Tesco Personal Finance is a key ingredient in this mix, directly competing with traditional banks by a better quality of customer service. Quarterly statements are sent out to 8.5 million members, including 100,000 different personalized variations. Tesco doesn't charge customers for withdrawing conventional money from the 350 ATM's which operate around the UK. Every store also provides leaflets and a freephone service for other financial products such as interest-bearing saving accounts, loans, insurance, pensions and a Visa card.

A Clubcard Plus functions as an all-purpose banking service card in addition to a loyalty card, earning 2 Clubcard points for every pound spent, double the usual rate.

airlines becoming retailers (e.g British Airlines's Air-Miles becoming redeemable in Sainsbury's retail vouchers) or getting involved in phone services (e.g. the new Lufthansa Senator cards are used not only to buy airtickets and keep track of frequent flyer miles, but also for paying phones, rent cars and other traveler's services). We have phone companies getting involved in retail payment systems (e.g. France Telecom's 1.2 million mobile phones are used to charge payments for goods and

¹⁴³ Boyle, David E-Money (Financial Times Management Report, December 1999).

services). The Irish telecom operator makes more money from investing the ‘float’ - the unspent balances issued on phonecards - than they do from actual phone calls.¹⁴⁴ Cable TV become e-commerce networks (Canal Plus in France is providing this service now; and there will be 29 million Set-top boxes operated by smartcards in Europe alone by 2003, ten times more than there will be shop terminals.¹⁴⁵) Zambian smartcards have already programs for 10 different types of currencies. All new PCs produced in the year 2000 have smartcard slots, and new smartcards use the same Multos platform so that you can download by telephone on it whenever you need it, for instance a Paris Metro or an Euro-star application, a local library lending program, launderette payments, healthcare insurance data or what is needed to change it into an phone card in Italy. In short, mobile phones, cable TV, computers, smartcards, complementary currencies and traditional payment systems are starting to converge and create a new money world in the process.

Why should we expect that one of the most conspicuous legacies of the Industrial Age--our national currencies--would remain impervious to change? Even bankers, such as Citibank’s CEO John Reed, agree that “banking will become a bit of application software on an intelligent network.”¹⁴⁶ The 1998 merger between Citibank and Travelers Insurance proves that he means it. Similarly, the integration of frequent-flyer miles incentives with traditional national currency-based credit cards shows the trend toward the future. In fact 40% of frequent flyer miles are now not earned by flying; and for British Airlines for instance only about two-thirds of air miles issued are cashed in for something else than flights.

Implications for Banks and Financial Services

In the Primer, we saw that from the 1980s forward, banks found that they were forced to move into new arenas of businesses, performing in them totally different functions and facing different competitors. Instead of making money from the spread between customers’ savings deposits and loans to businesses, banks are now in “financial services”. Their biggest profit centers are likely to be credit cards, foreign exchange, derivative trading, securization, specialized insurance products, or other exotic “financial products” designed for sale to individuals and businesses. As a consequence, in addition to other banks and savings and loans institutions, their competitors are now brokers (e.g.,

¹⁴⁴ Gosling, Paul Changing Money: How the digital age is transforming financial services (London: Bowerdean, 1999).

¹⁴⁵ Smart-card News February 1999.

¹⁴⁶ at a meeting in Washington sponsored by the Treasury Department, quoted by Mayer, Martin The Bankers: The Next Generation (New York: Truman Talley Books/Dutton, 1997 pg. 34

Merrill Lynch Cash Management Accounts), insurance companies, mutual funds, real estate mortgage brokers, and specialized payment service companies such as Automatic Data Processing (which handled the payroll for 18 million American employees in 1995).

As the Internet expands, it brings with it a second wave of computerization including Open Financial Services. “Open Finance” is defined by Forrester Research as “emerging affluent consumers enjoying best-of-breed financial services combined with easy electronic movement of money. Open Finance means using technology to extend premium financial services that the wealthy enjoy to the mainstream investing public.”¹⁴⁸ This will open up a whole series of new questions for everybody, including taxation authorities (sidebar).

Equally as critical, the Net will also strip away the geographical protection layer that most financial institutions seem to take for granted. While the Internet clearly started as a US phenomenon, why would Swiss, Bermudan or Singapore banks or service companies not provide payment services or investment advice worldwide via the Net? If data about investment in Information Technology by financial institutions worldwide is any indication, it shows that European financial institutions are now investing more every year than all US banks and non-banks together. By the year 2005, even the financial institutions in the rest of the

Taxation in Cyberspace ?

The US government Internet Tax Freedom Act of October 1998 has declared a three year moratorium on taxation of all Internet transactions. But even after this moratorium will lapse the questions arising from taxation in cyberspace promise to be far from trivial.

1. Whoever taxes cyberspace may loose the chance of leading in the world’s new economy.
2. Who gets to tax what when a English customers buys something on the Net from an Indian producer and pays for it, all under serious cryptographic protection? Just as critical, if one succeeds in taxing such transactions, how does one avoid double-taxation?
3. The issue of privacy and taxability are two sides of the same coin. A traceable transaction is easy to tax, but eliminates privacy; a transaction that respects privacy is difficult to tax. No easy compromise for this structural dilemma!
4. Furthermore, an estimated one sixth of all wealth in the world is now already in tax havens.¹⁴⁷ Open Finance will make such facilities available to much larger populations.

I claim that the ultimate answer will be to fundamentally rethink the taxation game. Industrial Age taxes were those on labor (which are counterproductive from an employment perspective), income, sales or value-added (the former intrusive from a privacy viewpoint, the latter socially regressive, and all increasingly hard to define and collect in cyberspace anyway).

Knowledge Age taxes will be those that are comparatively easier to identify and collect and which provide an additional social or sustainability incentive such as: pollution taxes, taxation on the use of land, energy or of non-renewable resources. Even from a theoretical economic viewpoint this approach makes more sense, given that these taxes would make explicit real costs which today’s market system doesn’t capture.

Such a systemic transfer of the taxation base has already started in some forward thinking countries such as the Netherlands.

¹⁴⁷ Boyle, David “The scandal of the tax havens” New Statesman November 13, 1998.

¹⁴⁸ The Forrester Report: Money and Technology - Open Finance (Volume Two, Number 4, December 1996) pg. 3.

world will be outspending their US counterparts (See Figure 3.2). Such massive investments are likely to translate into a more aggressive cyber-presence as well.

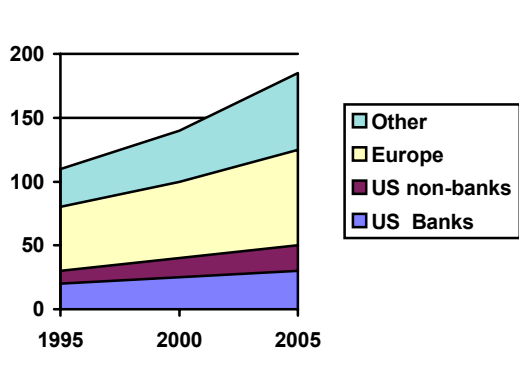


Figure 3.2 Annual Investment in Information Technology (US\$ billion) (Source: The Tower Group)

In addition to traditional financial institutions, a whole group of newcomers are likely to enter the field of financial services. Some of these are corporations that are established in adjacent fields, such as DEC, IBM, British Airways, Tesco, Sainsbury,¹⁴⁹ or Microsoft, as well as a host of previously unknown players designed purely for the Net (such as Accutrade, eBroker, E*Trade and Datek). These Net-brokers hit the market of established brokerage firms in 1995 with a flat fee of under \$25, and sometimes under \$10 per trade. Compare that with a full-service commission averaging between \$150 and \$300 per trade. These Net firms are not burdened with the overhead of real estate, legacy computer systems, or habits bred by high commissions in traditional firms. This enables them not only to offer cut-rate pricing that puts discount brokers to shame, but also more sophisticated services than provided by many of the full-service houses. Notwithstanding their low costs, they provide for free services such as real-time price and volume quotes, news stories about the specific companies you follow, online access to your account, up-to-the minute stock monitoring and portfolio pricing, even analysis and portfolio management tools. In October 1997, Christos Cotsakos, CEO of E*Trade, which charges only \$15 per trade, said his business handled \$4 billion in customer assets and opened 600 accounts in a typical day, yet it could claim only 7% of the online trading market. Some of the biggest established houses such as Charles Schwab and Merrill Lynch

¹⁴⁹ Sainsbury is one of the largest British retail chains, with 380 supermarkets. It has opened a Sainsbury bank so that customers can do their banking while in the store. It intends to offer a range of accounts, standard and gold Visa cards, checks, personal loans and even mortgages. See Rankine, Kate "Sainsbury plans to open as bank: Challenge to rivals in food and finance" (London: [The Daily Telegraph](#) (October 26, 1996).

have retaliated by going online themselves and matching the upstarts' offerings, so that Schwab now handles online some 700,000 accounts and \$120 billion of customer money. Even the crusty London Stock Exchange had to bow to Tradepoint, a rival online upstart, to allow it to disseminate real-time electronic dissemination of its prices.

Forrester Research forecasts that the number of online investment accounts will soar from 1.5 million in 1996 to 10 million in 2001. By then, online securities trading is expected to grow four-fold to \$350 billion and online mutual fund trading ten-fold to \$173 billion.

All this will *really* take off when a significant percentage of the emerging affluent are wired--sometime during the first decade of the Millennium --when Netsurfers, who grew up with computers as teenagers, enter their money-making years. But by then the early movers will have staked out the Open Finance territory, and established their brand names.

Even more fundamentally, in Open Finance, the institutions that will be the winners are those that have positioned themselves to transfer *value* on the Net, instead of only national currencies. For example, the capacity to handle non-traditional currencies smoothly, as a complement in payment systems to the national currencies, will be a major plus. Payment systems that try to deal exclusively with national currencies will be put at a structural disadvantage. For instance, how about sending an email to your daughter stranded in a foreign country, with an attachment of some dollars *and* some frequent flyer miles for her to buy an airline ticket back home? How about paying for something on the Net with a mixture of dollars and corporate scrip or complementary currency? Cendant¹⁵⁰ is already using mixed payments of dollars and its own "netMarket Cash."¹⁵¹ Similarly, the first dual-currency smart cards for payments in a mix of dollars and complementary currency were being tested in Minneapolis in 1997 (as will be shown in Chapter 7).

All this may sound strange to the habitual ways of thinking by today's established market leaders. But as Eric Hoffer put it:

"In times of change,

¹⁵⁰ Cendant is the largest online merchandiser with a sales volume on the Net of some \$1.5 billion in 1997, also the topic of a case study in Chapter 4.

¹⁵¹ Wired (September 1997) pg. 223

*those who are ready to learn will inherit the world,
while those who believe they know will be marvelously
prepared to deal with a world that has ceased to exist.”*

Wisdom in the Information Age?

The coming of the Information Age does not entail only positive consequences. The one certainty it heralds is change. Resisting the change has been proven to make the shift even more traumatic in the long run.. The cost structure in favor of the Net is so overwhelming that the wave will be irresistible. It will also go global much faster than was the case of the Industrial Revolution.

It is important to remember that information-as-resource is only a raw material, the equivalent of a sack of coal during the early Industrial Age. It becomes truly useful only when it is transformed into knowledge and handled with wisdom. We therefore need to define the subtle but critical differences between the adjacent concepts of data, information, knowledge and wisdom.

A good starting point is T.S. Eliot’s question:

*“ Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?”*

To which Harlan Cleveland adds: *“Where is the information we have lost in data?”*¹⁵²

Data are undigested observations without context. A list of phone numbers is an example of raw data.

Information is data organized by someone else, not by you, according to some system aimed at making it retrievable and hopefully useful to someone like you. An alphabetical listing in a phone book organizes the raw data of phone numbers in some such a useable way.

Knowledge is information that has been internalized by you, integrated into everything else you know from experience and study, and that is therefore available to you for as a basis for action in

¹⁵² Eliot’s quote is from The Rock and Cleveland’s from The Knowledge Executive: Leadership in an Information Society (New York: Truman Talley Books/ E.P. Dutton, 1985) pg 22

your life. You know that this particular phone number is your friend's number, and this links it with everything else you know about that friend. An increasingly important form of knowledge is learning how to find the information that is useful to you.

Wisdom adds depth, perspective and meaning to knowledge by integrating ways of knowing other than logic and analysis, such as intuition, or the intelligence and compassion from the heart. Wisdom is by definition multi-dimensional, crossing the boundaries between different fields and ways to knowledge. It is the ultimate synthesis which cannot be forced on or taught to someone else:

*“We can be knowledgeable with other people's knowledge,
but we cannot be wise with other's people wisdom.”*

(Michel de Montaigne 1533- 1592).

In our Industrial Age coal metaphor, data is the coal vein still deep in the mine. Information is a sack of coal ready to use. Knowledge is the steel we make out of it. And wisdom is the bridge, and the new connections between people that it enables -- which is the *real* purpose of the whole process.

If we are to realize the benefits of the Information Society, navigating the transition will require both knowledge and wisdom. If we choose to have some degree of wisdom prevail, the Information Revolution could serve in the creation of Sustainable Abundance, rather than other possible scenarios depicted in the following chapter. This is why I also call Sustainable Abundance wise growth.

As you read the rest of this book, the following four key points from this chapter are worth remembering:

- Whether we like it or not, an information revolution is occurring right now. Neo-Luddite attempts at stopping the process will prove even more futile during this transition than did those of their predecessors during the Industrial Revolution.
- Information technology by itself is neither a magic bullet that will spontaneously solve all our problems, nor a Frankenstein monster that will devour its creators. Potentially, it is *both*, and now is the time to become vigilant and aware of the deeper underlying issues. That same technology is unleashing *simultaneously* two powerful opposing dynamics. One leads to

Cleveland's "fairness revolution" where information-as-resource becomes an opportunity to increase and spread wealth on an unprecedented scale. Another could lead to a "Corporate Millennium" (next chapter) where "information barons" play the role of the "robber barons" of the early Industrial Age.

- What really matters is not the technology, but the way we use it. The whole money game is going to change. Additional choices beyond national currencies are both unavoidable and necessary. This process started *before* the new technologies were available, and such technologies have the capacity to amplify their spread and scale. For the first time in several centuries, new players are moving in to create totally new ways for defining money, creating it, and using it. This new money frontier provides unprecedented opportunities for rethinking the kind of money we want, and for incorporating features to help address issues our societies will be facing in the foreseeable future. For example, the possibilities that new money systems offer to address the unemployment problems likely to occur during the transition to the brave new information society should be of interest to *everyone*, even those who are today's elites at the top of the compensation scale. Similarly, elderly care, community and environmental restoration are goals to which a majority should be able to subscribe.
- Private corporate currencies are not a problem *per se*. After all, as we saw in the Primer and Chapter 2, our familiar "national" currencies are bank-debt currencies, i.e. are in reality privately issued corporate currencies which have been homogenized on a national level. Potential problems arise when corporate currencies become de facto or legally enforced monopolies.

On the positive side, information-as-resource is giving to more people than ever the opportunity to create their *own* currencies that can reflect their *own values*. The starting point is to be aware that *choice in money systems exists*, and that *choice matters*. Historically, most features within money systems have not been designed consciously. They just evolved and ended up reflecting whatever the power structure and the collective unconscious of the corresponding societies projected onto them. This time, we have the opportunity to do it differently. We know enough about money and the collective unconscious to open conversations about the available options. *Conscious choice* in money systems at all levels --global, national, corporate, grassroots or individual—may well be the most powerful leverage point for determining whether or not the opportunities of the Information Age will produce Sustainable Abundance or some other outcome.

The consequences to society of the dominance of various types of currencies created by different actors are explored in the next chapter. Such an exploration may in fact reveal itself to be the ultimate way of understanding money. As Kurt Lewis pointed out: “If you want to truly understand something, try to change it...”

Chapter 4: Five Scenarios for the Future

“Never has humanity combined so much power with so much disorder, so much anxiety with so many playthings, so much knowledge with so much uncertainty.”

Paul Valéry ¹⁵³

“In writing scenarios, we spin myths - old and new - that will be important in the future.”

Peter Schwartz¹⁵⁴

“Humanity is entering a period of extreme alternatives.”

Botkin, Elmandjta and Malitza¹⁵⁵

This chapter explores future possibilities through scenarios, each of which is targeted for roughly one generation in the future, around the year 2020.

The “Official Future” is a simple extrapolation of what has become familiar over the past couple of decades. You will see why such a scenario has zero probability of occurring. Four more plausible scenarios follow this, each highlighting the implications for shaping our future societies of one of the changes currently possible in our money system. These four scenarios are: The Corporate Millennium, Careful Communities, Hell on Earth, and Sustainable Abundance. First, a cameo story captures the essence of the lifestyle for each scenario. Each time the evidence is provided that grounds the plausibility of such an outcome, in graphic form whenever possible.

In the conclusion, the four scenarios are placed in a broader perspective, and the driving forces that have shaped them are identified.

¹⁵³ Valery, Paul Historical Fact (1932).

¹⁵⁴ Schwartz, Peter The Art of the Long View (New York: Doubleday Currency, 1996) pg. 43.

¹⁵⁵ Botkin, J., Elmandjira M. & Malitza, M. No Limits to Learning: Bridging the Human Gap (New York: Pergamon Press, 1979).

Scenarios - Windows on the Future

Scenarios are tools that help us to think coherently through complex chains of events and relationships. They inform our decisions and choices today, aiming at creating a better future. They enable better informed decisions that are robust against a wider range of future possibilities.

Aristotle surmised a long time ago that if we know the future, we cannot change it; and if we can change it, we cannot know it. That is why scenarios are not simple extrapolations, forecasts or predictions.

One of the originators of scenario building, Napier Collyns, has called the process “an imaginative leap into the future.” His colleague, Peter Schwartz, president of the Global Business Network, described them as “tools for taking the long view; they’re stories about how the world might turn out. [These stories] are about meaning. They explain why things might happen, and they give order and coherence to events. Stories are history’s oldest way of organizing and communicating knowledge and one of the clearest channels into your mind’s eye.”¹⁵⁶

Such scenario building has three objectives:

1. To challenge habits in mindsets, mental models, images and beliefs. We all have our habitual ways of looking at the world, consistent with our attitudes and beliefs. Such mind-sets can filter out useful insights. Scenarios enable us to momentarily take off these filters and reveal the blind spots, the hidden assumptions, and open new windows on the future.
2. To identify and better understand the underlying forces that are driving pivotal events. Specifically in our case, the consequences of a shift of control over money systems to various new players in society will be highlighted.
3. To work creatively with these discoveries, and use the clarity they inspire to shape a more desirable future.

Scenarios are not academic exercises.

¹⁵⁶ Schwartz, Peter “Foresee the Futures: The Art of the Long View” Soundview Executive Book Summaries Vol 13 number 8 part 2. August 1991 pg 1-3.

The scenario-building process enabled Shell to forecast and prepare for the fall of the former Soviet Union, thereby avoiding billion-dollar mistakes in North Sea oil investments. Shell still updates its scenarios roughly every three years.

This process also contributed to the ‘South African miracle’ of the peaceful transition after Apartheid (see

sidebar). These same methods were further refined by the Global Business Network founded by several Shell alumni, and later published by Peter Schwartz.¹⁵⁸

“The Flight of the Flamingos”

A few years ago, Shell-trained scenario facilitators gathered representatives of all parties in South Africa. Among the participants at these confidential meetings were four of the ministers of the future Mandela government. The scenario that has been implemented in South Africa was called ‘the Flight of the Flamingos,’ a metaphor for all parties taking off slowly, but together. Clem Sunter, currently with Anglo-American, has published parts of these scenarios.¹⁵⁷

The Official Future: “More of the Same”

The Official Future that we are told we can expect during the coming decades, is usually based on an extrapolation of what has happened over the past 20 years or so.

For example, in the Official Future the same political parties are expected to continue to vie for power in the same places. Schoolchildren will continue to learn roughly the same things as their predecessors. The same crops will be grown, harvested, sold, prepared, and eaten in much the same way as in the past. Computers will continue to become faster, cheaper, smaller. We will still pay for our purchases with our familiar Dollars, Pesos, Pounds, Francs, Reales or Yen. We may use “smart cards”¹⁵⁹ instead of the old bills, magnetic credit cards or checks. We may store our small change in an electronic purse instead of a leather one. Europeans will have adjusted to using a common currency instead of the national ones. But when all is said and done, how much of all this *really* matters?

In the more rarefied spheres of the global monetary system, we may expect an occasional crisis to

¹⁵⁷ Sunter, Clem: The World and South Africa in the 1990s, and The High Road: Where are we Now? (Capetown: Tafelberg, Huam and Rousseau, 1996)

¹⁵⁸ Schwartz, Peter The Art of the Long View (New York: Doubleday Currency, 1996)

¹⁵⁹ “Smart cards” look like plastic credit cards, but they contain a computer chip instead of the magnetic strip to store data. This makes possible not only the storage of a lot more information, but also local processing of such data for identification and encryption purposes.

shake some individual countries--such as happened for the UK in late 1991, Scandinavia in 1992, Mexico in December of 1994, Thailand in June 1997 Indonesia in December 1997, Russia in September 1998 and Brazil in January 1999. Once in a while, the press may also herald a “grand scheme.” Such schemes are given names, such as the “Plaza Agreement”¹⁶⁰ or the “Maastricht Treaty,”¹⁶¹ pinpointing the place where the agreement occurred, but giving no indication of the pragmatic implications for the rest of us.

This Official Future¹⁶² boils down to a continuation of what we have lived with during the past couple of decades. But the real problem with this Official Future is that *it has no probability of occurring*. In the words of Willis Harman: “Our societies have reached a point where transformation is not optional anymore.”

Why the Official Future is Not Going to Happen

The words of Harman are prophetic for two reasons.

The first was already synthesized in the Time Compacting Machine of Chapter 1 (see Figure 1.3). The historically unprecedented convergence of the four megatrends -- Age Wave, Information Revolution, Climate Change/Species Extinction and Monetary Instability -- points out that “business as usual” is just not a realistic possibility. Any one of these trends is sufficient to significantly disturb the familiar societal patters. In combination, they just don’t leave any probability that we will get away with continuing undisturbed on our familiar path.

The second reason why the Official Future is not going to happen has directly to do with the topic of this book: the future of money. Even *before* any of these megatrends have fully played out, the decade of the 1990s has revealed various significantly experiments which alter the *nature* of money. Nobody questions that new technologies are going to change the *form* of our money (i.e., the ever more ethereal aspects that our “normal” national currency can take such as electronic bits in

¹⁶⁰ The ‘Plaza Agreement’ was the accord reached among the ‘G-5,’ the five most important central banks (the US, Japan, Germany, the UK and France), at the Plaza Hotel in New York in 1985 for a coordinated effort to gradually lower the value of the dollar in the world markets. It marked the end of the non-interventionist policy by the US in currency markets.

¹⁶¹ Named after the Dutch town where the European Union countries agreed to implement the next phase of the European integration process including a single currency, the ‘Euro,’ introduced in 1999.

¹⁶² This scenario terminology and methodology is borrowed from Schwartz, Peter *The Art of the Long View* (New York: Doubleday Currency, 1996) pg. 19

automatic payment systems, on smart cards or on the Net). When *Time* magazine has a cover story about the “Future of Money,” it refers to electronic dollars.¹⁶³ However, this is only part of what is occurring.

In parallel with these electronic money developments, something *entirely different* is emerging. There are those around the world who have already launched, or are experimenting with, totally different *kinds* of money. They are transforming what money is, who creates it, what it means, what emotions it encourages, and how people will behave toward each other and the environment when using it.

We know that the technological changes that have the most radical revolutionary impact on societies are those that *change the tools by which people relate to each other*. Fundamental shifts in civilization have been traced back to the invention of writing¹⁶⁴, the alphabet¹⁶⁵ and to the printing press.¹⁶⁶ The breathtaking social, political and economic implications of the invention of the telephone, car, and television¹⁶⁷ are classic examples of such shifts that occurred during the 20th century.

Changes in the nature of money will have at least as great an impact as any of the above examples. Money is our key tool for material exchanges with people beyond our immediate intimate circle. Of all the tools that can change human relationships, what is more central in a capitalist society than money? Capitalism uses the flow of money within the marketplace to allocate resources among participants in society. Under capitalism, money is not only the means but also the objective of the overwhelming majority of the exchanges. The internal combustion engine changed only the nature of our transportation system, and look at the results! In today’s capitalist society, changing money

¹⁶³ *Time* April 1998

¹⁶⁴ see Havelock, *The Muses Learn to Write: Reflections on Orality and Literacy from Antiquity to the Present* (Yale University Press, 1988)

¹⁶⁵ Shlain, Leonard *The Alphabet versus the Goddess: The Conflict between Word and Image* (New York: Viking, 1998).

¹⁶⁶ McLuhan, Marshall *The Gutenberg Galaxy: The Making of Typographical Man* (Toronto: University of Toronto Press, 1962)

¹⁶⁷ see among others McLuhan, Marshall *The Medium is the Massage: an Inventory of Effects* (Hardwired, 1996) .

would be equivalent to altering both the fuel and the underlying motivation for most of our actions. Therefore, transforming the nature of our money is likely to have more far-reaching consequences than we can begin to imagine.

There are now hundreds of projects under way that are utilizing new kinds of money, and creating just such a transformation. Together they provide a strong indication that our very concept of money will change. Some of these schemes involve the most powerful organizations in the world and billions of dollars of investments. Others have been implemented on a shoestring by social activists in a dozen different countries, and still others were dreamed up by a lonely “cypher-punk” in a loft in Silicon Valley. *My forecast is that 90-95% of all these projects will not survive; but that the remaining 5% will succeed at permanently changing our economies, our societies, our civilization, and our world.*

Just as radically as gunpowder sealed the fate of the feudal system in Europe at the end of the Middle Ages, those money projects that survive will determine the direction toward which power will shift over the next century. What makes this unusually exciting--or frightening, depending on your viewpoint--is that there is no way to know which approach will prevail. It is not necessarily governments or corporations, or even the best-funded or best-staffed projects, that have the greatest chance. Some entrepreneurs in a garage are succeeding where the giants have failed.¹⁶⁸ Conventional wisdom has long held that only the largest corporations could attract top talent and significant financing, because size automatically ensured market clout. None of these well-established “facts” have held true in the 1990s.

When we talk about the future of money, we cannot avoid talking about the future of our societies and of our world. This should not be interpreted as a mechanical cause-and-effect relationship between money systems and broad societal changes. Societies are extraordinarily complex systems and, therefore, impossible to understand in simple mechanical terms. This is truer now than ever before. For the first time in recorded history, our money game has become a truly global one. Now

¹⁶⁸ Special Report of Business Week “Making Money on the Net” (September 23, 1996) pg. 104

that ex-Communist countries, and even “communist” China of today, have irrevocably switched to money as the social motivator of choice, changing the money system may be the most powerful way available to consciously shift our collective behavior on a global scale. In addition, for the first time in history, the effects of any monetary changes will be multiplied by our information and communication technologies, propelling us at high speed into mostly uncharted territories.

Given that the Official Future is not going to happen, what are some of the other more plausible futures? Here are four very different directions in which changes in our money systems could take us:

- **The Corporate Millennium:** a world where private corporate scrip has taken over the role of of the familiar bank-debt national currencies;
- **Careful Communities:** where a global monetary meltdown has left community-based local currencies as the dominant money-shaping force;
- **Hell on Earth:** where no new social or monetary order has been able to emerge after the collapse of the official money system;
- **Sustainable Abundance:** a world where various kinds of money innovations -- described in Part Two -- form a successful preventive measure against a monetary meltdown and create an “Integral Economy” where the old and new money systems effectively balance and complement each other.

The Corporate Millennium

The Corporate Millennium scenario illustrates how power, including the power to create money, could shift to major multinational corporations over the next decades. This story is reported by a journalist after interviewing Britain’s Last Prime Minister in the year 2020.

Good-bye to the Last Prime Minister¹⁶⁹

London, February 7, 2020

While he gazed at the fires burning on the South Bank, I spoke with Britain's last Prime Minister in his old office at Westminster Palace. This was the most candid and informal interview I have ever had with him, perhaps because this was also his last one. "This isn't my problem anymore," was his opening remark. He had signed the final papers earlier in the day. At midnight, Securicor was to take over the police franchise for the United Kingdom.

This was the final piece of the puzzle. Executive Solutions had already won the armed forces contract, in return for control of Cornwall's offshore oil fields. Social Services is run by Sonysoft, since Sony took over the Microsoft empire after Bill Gates' tragic death. Consolidated Banks was in charge of the economy. NewsCorp had the Education Department franchise. Even the Houses of Parliament, no longer needed now that elected representatives had ceased to have meaningful functions, belonged to Virgin. Tomorrow the estate agents were coming to look at Number 10 Downing, and he would slip into retirement as easily as power had slipped into the hands of corporations.

He showed me a book of old press clippings. The first was a report of his maiden speech in the Commons in 1992. He was attacking the loss of British sovereignty to the European Union. He smiled at his own naiveté. "I had talked about immigration, demanding greater controls. Talk about barking up the wrong tree. Getting into the country, any country, is easy now--just buy an airline ticket. But entering a corporate enclave, like Islington, Belgravia or Lower Manhattan, requires an electronic appointment and 'positive identification'."

His face turned grim. "Really efficient, this 'positive ID' technology. As with most important things in history, its general acceptance was a convergence between conscious choice, accident, and necessity. The conscious choice was the initial justification to test smart cards for administrative reasons--they would include name, Social Security number, driver's license, and emergency insurance and medical information. The accident was the 'credit card blitz,' when a group of hackers--who had patiently created a data base with credit card numbers, credit limits and approval codes--disappeared one day in 2001 after charging hundreds of million of dollars on hundreds of thousands of accounts. After that, the smart card payment technology imposed itself almost overnight, and the tie-in with electronic ID made a lot of sense to improve security. However, after the global social unrest of 2006, two additional types of data were added, first in the US: the PSC level and the PEC order, operating both in physical space as well as in the cybersphere." (See ** note at bottom of previous

**In 2020 cyber-jargon, the *cybersphere* is the virtual space where all the electronic technologies--payment systems, telephone, computers, media, security systems, Internet--all converge into a single seamless system. The *Personal Security Clearance (PSC)* defines the areas to which a person can be admitted--which areas of town, which buildings, which rooms in specific corporate buildings. This is all neatly organized through security systems that are automatically updated if you have an appointment with anybody in one of the corporate enclaves. The device reads your 'positive ID' status as you walk along. Totally unobtrusive--with the right clearances. The same PSC also controls access to the cybersphere. It became necessary to increase general security as larger segments of society--excluded from the benefits of corporate jobs--turned increasingly violent to survive (from the old petty street crime to kidnapping of executives, cyber-terrorism, extortion under the threat of mass disruptions, etc.)

The *Personal Economic Clearance (PEC)* defines an individual's creditworthiness for using the various corporate scrips in which he or she participates. Without the proper 'economic clearance,' one can't enter certain shops or shopping zones, whether downtown or in the cybermalls (there is not much there that anybody with a lower clearance could afford

¹⁶⁹ The style of this scenario and part of its contents are inspired by two articles: "Altered States" by Paul Rogers and "The Wild Frontier" by Peter Popham, both in *The Sunday Review* (Sunday Supplement of the Independent: October 13, 1996) pg. 10-14. While some ideas come from these articles, there are also substantial additions and differences to which the original authors may not subscribe, so I take full responsibility for these changes.

page)

He continued, with some sadness in his voice: "I remember seeing a BBC newscast back in 1996 about trends in America. It mentioned The Mall of the Americas in Minneapolis--the largest shopping mall in the world at that time--where, because of security considerations, access was prohibited to unaccompanied teenagers at the request of adult shoppers. These youngsters didn't have the economic buying power to justify their presence there anyway. I remember thinking that this could never happen in the UK. Finland, back in the last days of the 20th century, was the first country to impose general use of positive ID using smart cards. The Americans copied that experiment initially in the major metropolitan areas to cope with the spreading urban mayhem. Korea was first to legislate surgically embedding electronic ID chips in the hand at birth. Now, the Securicor contract I signed this morning specifies that, in accordance with the Interpolnet agreement, implants are needed on a global level, and therefore in the UK as well. Their argument is irrefutable: how can anybody police the global cybersphere if there are security holes where people can log on without individual ID implants?"

He went on, "An information bridge between product bar codes and personal IDs was also inevitable. In the 1990s, we already knew that the information about who purchases what was more valuable than the profits. Even Orwell did not foresee a Big Brother that could reconstruct everybody's life at that level of minutia. Every purchase, toll payment, and phone call made with traceable money is routinely warehoused in massive databases for future reference-- the most valuable corporate marketing assets of the Information Age.¹⁷⁰ But it has become even more essential to screen out anybody for dubious security connections."¹⁷¹

The last PM insisted that he go on record as saying that he has tried to stem the corporate tide one last time. "But there had really not been any choice. The first warning signs were already there when 'market forces' propelled Britain out of the European Monetary System back in 1991. Then came the Millennium Bug. It imposed a triage system to identify "Y2K compatible" businesses and squeezed out all those that were not. This further concentrated power in yet fewer hands. A few years later, the "leftist" French President tried to raise taxes to pay for essential services. Capital had fled overnight. The wealthy, even the moderately well off, had migrated to other tax bases. The multinationals took a few months to wrap up their operations, and delocated most functions performed in France to friendlier places. Back in 1996, Glen Peters, Director of the Future at Price Waterhouse, had called them nomads. 'They take what they can while it's in abundance, then close up shop and move on.'

After that episode, all countries were put in competition to further cut their budgets to the bone. The last items to go were subsidies used to attract foreign investments. The driving force had really been the digital revolution. Bill Gates became the new Karl Marx or George Washington, depending on who you talk to, leading us straight into the Corporate Millennium.

Perhaps it was predictable that The Knowledge Society would become The Corporate Society. After all, the corporations that came out on top were invariably those most effective at using knowledge in an organized, strategic sense. Knowledge, power and money, have always been closely linked, and now have become directly interchangeable. And governments have become irrelevant in all three."

"We should have seen it coming," he reflected. "As long ago as the 1990s, the Director General of the Institute

¹⁷² Handy, Charles: The Empty Raincoat (London: Arrow Business Books, 1992)

¹⁷³ Postman, Neil Amusing Ourselves to Death: Public Discourse in the Age of Show Business (New York: Penguin Books, 1986) and Gans, Herbert J. Deciding What's News: A Study of CBS Evening News, NBC Nightly News, Newsweek and Time (New York: Vintage Books, 1980).

of Directors, Tim Melville-Ross, had said that the possibility of the Third Millennium being ruled by the corporations was 'a legitimate concern.' Glen Peters had said that 'all evidence is that probably the tide is unstoppable.' Not everyone agreed that it would be so dramatic. Some had thought that the State would return to its traditional roles of setting rules and fighting wars. But we all expected that the Information Age would be as earth-shaking as the Industrial Revolution. And look at what that did to the old landed aristocrats, not to speak of the peasants. A host of business gurus had sounded warning bells for decades. I remember Charles Handy, author of *The Empty Raincoat*, saying 'Companies are still run as totalitarian states.'¹⁷²

"The real clincher," he noted, "was when corporations directly issued their own currency, instead of simply competing for the currencies issued by banks under governmental supervision. It started innocently enough with 'frequent flier miles,' initially earned with and redeemable only for airline tickets. American Express simply generalized the concept by creating its 'world traveler money, redeemable worldwide.' When these prototypes merged with the booming cybereconomy, it almost became a free for all. However, through coalitions and convertibility negotiations among the larger corporations, we created today's reality: a few dominant 'hard' corporate scrips backed by real goods and services that are increasingly taking over the 'unstable national currencies only backed by debt.'"

The PM wiped the dust off the window ledge. No one came here any more. The Commons had held its debates on the Internet for almost a decade. That allowed the politicians to spend more time with their constituencies, or so went the reasoning. But nobody in the constituencies cared either. Everybody knew that politicians had no real power to influence events anyway.

He continued, "The turning point for the media was when they discovered that what people really want is *to be distracted* from reality. So news increasing became entertainment.¹⁷³ I am willing to bet that more of the footage shot by NewsCorp at tonight's riots is going to be used as an insert for the latest episode of their series on Cybercops and Robbers, rather than in the news report. Business reports and entertainment news have gradually replaced coverage of political issues. Turnout at elections has sunk to 5%. My government has less legitimacy than a tinpot dictatorship. When I tried to push through a law ordering the de-merger of NewsCorp and the BBC, people had just laughed. The only option left was to just wind the whole thing down.

Not everything is bad, of course. Other institutions, some high profile charities, museums, universities, had done rather well under the new regime. Most workers worked from home, or from somewhere more pleasant than big cities. London has been shrinking for almost a century now, and telecommuting gave the final push to the exodus. The streets are mostly filled with tourists. The Palace of Westminster will remain a grand old building though, now that it is an indoor park, since Disney refurbished it with the perfect theme. As the brochure says, "Representative Government as it was: from the Magna Carta to the year 2000." They take the usual liberties with the historical facts and emphasize only the most exciting episodes. But I do feel left out-- they stopped the clock at the year 2000 because it made marketing easier.

Yes, the buildings will be all right. But what about the people? It wasn't that the mega-corporations were treating them badly. In many ways, being a citizen of Goldman Sachs or Chrysler-Daimler-Benz had more advantages than being a British or German/American citizen. Certain kinds of employees are thriving like the royalty of the past. The City is paying massive salaries to those with the right skills. The problem is that nobody convinced the global giants to become socially responsible. Last century, big business was trying to bend the rules. Now, there are no rules, except the ones they create. 'You have to ask whether big business and representative organizations like ours are likely to handle power in a benign way' Tim Melville-Ross had warned back in the 1990s, 'And it is by no means certain that they will.' He had thought disclosure and public scrutiny would be enough to ensure good behavior. Glen Peters, too, had argued that the consumer was more powerful than the biggest company. The public had boycotted businesses they didn't like, but this inane approach could hardly work. Big business, after all, also controls most of the information people were getting-

-directly, by ownership of the media, or indirectly, through the influence of the advertising money. It had also managed to colonize almost all of the Cybersphere.

Then there is always the uncontrolled component, the Cyber-underground, at the leading edge of the backlash. By comparison, the earlier IRA bombings in London were a picnic. Who would have thought that weapons of mass disruption would replace weapons of mass destruction? The stock market crazes launched underground by the hackers, disrupted payment systems, commercial aircraft colliding in the skies, mis-tracked commuter trains crashing into freight trains. And when any of these mass disruptions occur, no one can call an ambulance--the 999 network has been blown apart by a computer virus. And the older forms of violence still pose a threat. Even Bill Gates, with all his bodyguards, could not avoid being blown up along with his armored car.

But what should one expect when a third of the population, including many of our brightest kids, cannot find a job, have no room at our collective table, do not fit into the increasingly paranoid business world? The backlash against softhearted people in the business world has been harsh. Women have been singled out for not understanding that this is a tough world, that business is at war with these cyber-terrorists. 'Love it, or leave it' had become the unspoken rule, very effective at generating conformity among the 'Ins'."

Again the PM glanced across the river and shuddered. People on the far bank had flaming torches. "That is the real problem, the ever growing numbers of 'Outs.' The underclass has been falling behind for decades. Even when I was a boy there were men living rough on the streets. Then came the kids. After that, whole families. Now it looks like hordes. Professor Handy had estimated that 20% of the population would be unemployable. He had guessed too low: with increased social uncertainty and criminality, corporations needed to be more selective than ever in hiring anybody who might be a security risk. Unemployment keeps rising for those too old, with outdated skills, or spotty security associations."

The last PM of the UK closed his book of clippings, put it in his red box and left the Houses of Parliament for the last time. As he walked out, he glanced up. The glowing Seiko sign on Big Ben was backlit by the glow from the fires. He said he felt a deep sense of personal failure, along with the failure of a system of governance. A page of history had been turned – irrevocably.

Timetable for the Transition

A timetable follows detailing a plausible transition between the Information Age and the Corporate Millennium. All events through 1998 are actual, beyond that they are projected.

Timetable of the Revolution

1970s: Experimental introduction of frequent flyer miles and product bar codes.

1980s: Generalization of fidelity cards and product bar codes. Introduction in France of smartcards for payments purposes.

1992: Amex embarks on an alliance strategy for the "frequent traveler" market, making membership miles convertible into "Connect Plus" and vice versa, starting the trend of broadening the purpose of private currencies

1994: The first Positive ID chips surgically implanted in the necks of dogs are successfully marketed in Silicon

Valley.

1995: Total outstanding "narrow purpose" corporate scrip tops \$30 billion in value for the first time; 30 million rechargeable smartcards for payments in circulation in France; 88 million smartcards issued in Germany for national health record management; in Finland the Central Bank issues a combined payment, social security, and health management smartcard.

1996: Joint venture between Microsoft and Barclays to design electronic money systems. Merger of CNN and Time-Warner creating the largest "content" empire. Introduction of Internet stations in public places in the UK. Implementation of the new World Trade Organization (WTO) Treaty, dismantling most remaining national barriers to international trade. Sensar, a pioneering biometric company, signs contracts with NCR and OKI Electric Industry for iris scanning devices in Automatic Teller Machines (ATMs).

1997: The first Britons get Internet access via home TV sets. Biometric iris scanners operational in Japan and London. A pilot project between US and Bermudan Immigration authorities uses automatic hand reading devices to expedite the processing of frequent travelers. Microsoft introduces Virtual Wallet in its Internet Explorer 4.0. Worldcom merges with MCI, the largest financial deal in history so far, also the largest "carrier" merger; 170 million smartcards in use worldwide.

1998: Citibank introduces biometric iris scanners in the US. Electronic fingerprint ID implemented. British Telephone merges with ATT, besting the MCI - Worldcom deal to create the largest telecom carrier.

1999: Accelerating merger trend between information "content" and "carrier" groups. Amex launches "cash2000," a full-purpose corporate scrip "for the global elite." Microsoft and others follow suit.

2000: The volume of email for the first time exceeds conventional post; 600 million smartcards in use worldwide.

2001: The first Information Rights scandal breaks out: medical information is being used to blackmail people into purchasing from one specific online supplier. As all relevant databases have been accumulated in a tax-haven island in the Pacific, no legal recourse is obtained.

2003: Koreans require by law "positive ID implants" into newborn children.

2006: Repression of the "global job riots," most violent in US cities.

2010: Private corporate scrip currencies exceed national currencies in commercial exchange volume for the first time.

2015: Tax-slashing promises are fulfilled by privatizing the remaining essential services in the UK.

2020: The last Prime Minister of the United Kingdom retires.

How is this Possible?

This scenario describes how the Information Revolution could decisively shift power toward the Corporate world, making the nation-state concept irrelevant. Instead of changing internally to adapt

themselves to their expanded social role, corporations reshaped the world to their own priorities.¹⁷⁴ Corporate take-overs of government functions can be a double-edged sword, depending on the field, and the way the services are handled. For instance, nobody is regretting the government-owned telephone services in the countries where that was the practice. Private corporations have been supplying better and cheaper service than the government services had supplied. Similarly, the appearance of private postal services, such as Fedex or UPS, has improved quality and reliability of service.

In other domains, the outcome may be less obvious. When First Data Resources built an engineering school for the University of Nebraska at Omaha whose curriculum is specifically tailored to the needs of that corporation, the slope can become slippery. When high school children receive their financial education from a credit card company, and they learn that it is “good financial practice” to have 20-30% of one’s income dedicated to reimbursing credit card debt, we have gone over the edge.

Specialized corporate currencies like frequent flier miles are thinkable only because cheap and ubiquitous computing power.

It is only a question of time before someone (American Express, Microsoft, some newly formed cyber-entity, or a consortium of corporations?) will issue a full corporate scrip, backed by their goods and services. Even Alan Greenspan says he “envisages proposals in the near future for issuers of electronic payment obligations, such as stored-value cards or “digital cash” to set up specialized issuing corporations with strong balance sheets and public credit ratings” and he foresees “new private currency markets in the 21st century.”¹⁷⁵ In short, instead of competing for the familiar national currencies backed only by government debt, corporations could issue their own money backed by real goods and services.

¹⁷⁴ One of the best studies on this topic is by Korten, David : When Corporations Rule the World.(San Francisco: Berrett-Koehler, 1996).

¹⁷⁵ Greenspan, Alan “Fostering Financial Innovations: the Role of Government” in The Future of Money in the Information Age (Washington, DC: The Cato Institute, 1997) pgs. 49-50

Cartoon
 “Where to and
 Why?”

Governments will, most likely, not be the only losers in such a power shift. For instance, a Corporate Millennium has the potential to further erode personal privacy and individual rights to the advantage of the large corporations. Such erosion results from a convergence of the following

three trends, alluded to in the scenario:

1. The perceived need for personal identification (“positive ID”) to ensure security in electronic payments. As the cyber-economy expands, bringing with it a criminal cyber-underground, the rationale strengthens for this possibility (sidebar).

A Press Release by WorldNetDaily.com, November 20, 2000

Applied Digital Solutions, Inc., a NASDAQ-traded company, presented publicly today its “Digital Angel” device before an overflow crowd of more than 300 invited guests including U.S. Secretary of Commerce Norman Mineta.

The technology consists of a miniature sensor device, designed to be implanted just under the skin, that captures and wirelessly transmits the "wearer's" vital body-function data, such as body temperature or pulse, to an Internet-integrated ground station. In addition, the antenna receives information regarding the location of the individual from the GPS satellite. Both sets of data -- medical information and location -- are then wirelessly transmitted to the ground station and made available on Web-enabled desktop, laptop or wireless devices. A more sophisticated version of microchip technologies currently used as electronic ID tags for pets, Digital Angel is powered electro- mechanically through muscle movement, or it can be activated by an outside monitoring facility.

As WorldNetDaily has reported, in addition to locating missing persons and monitoring physiological data, Digital Angel will be marketed as a means of verifying online consumer identity for the burgeoning e-commerce world.

And in an interview last March, the chief scientist, Zhou, told WorldNetDaily that he believes the implant will be as popular as cell phones and vaccines. Digital Angel "will be a connection from yourself to the electronic world. We will be a hybrid of electronic intelligence and our own soul" said Zhou.

Richard J. Sullivan, Applied Digital Solutions' chairman and CEO, waxed eloquent about the market potential of Digital Angel, claiming the company has "uncovered a total marketplace that is conservatively estimated to exceed \$70 billion."

2. Electronic forms of money -- whether of the old national currencies or corporate scrip -- are ideally suited to become “traceable currency,” easily used to track who purchases what. The most valuable

marketing asset in the Information Age will be the massive consumer data-bases that result, and are already being built today, as is confirmed by the demand for unprecedented large-scale data storage devices by all major retail chains. Another sign of this trend: the South African bank Nector gives its customers a free portable telephone which gives them automatically each morning their bank balance, but also monitors all other calls to build up a profile of the customers.

3. Connecting product bar-code information to the personal identification of the purchaser. The economic incentive for this is almost irresistible, particularly for mass marketers, who thereby have available to them a complete profile of millions of consumers, including information about their preferences and lifestyles.

Privacy erosion may creep on us like the experiment with frogs that let themselves boil to death if the temperature rises very slowly. And it may all happen, thanks to giant corporations most of us have never heard of, that appear suddenly out of nowhere, like whales breaching from the deep. This is not theory or paranoia, for it can be illustrated by the actual history of the biggest Net distribution corporation of 1997-98.

The Case of the Stealth Mega-Store

Quiz question: Name the largest Net merchandiser in 1997 (\$1.5 billion in sales). A corporation that makes available over one million different products and services on-line (as a basis of comparison, a typical Wal Mart has 50,000 items), and that has detailed psychographic and transaction data concerning over 100 million consumers (about half of US households). An extra hint: the same corporation is also the world's largest franchiser in both hotel chains and in residential real estate.

Did you guess Cendant?

If you didn't, don't feel badly. Most of its customers don't know its name either. Cendant is the result of a merger between two just as little known companies--Comp-U-Card (CUC) and Hospitality Franchise Systems (HFS)--which have nothing in common, except an understanding of the power of information in the Information Age. Their history is a perfect case study about how the dynamics of the Information Age can concentrate power in totally new ways.

Walter Forbes started CUC in 1976 as a computer-based shopping service. His core idea was rock-solid and simple. Instead of having manufacturers ship to wholesalers and retailers who sell to the consumer, they supply the CUC database with *information* about their goods. CUC presents that information in a palatable way to consumers who can buy at the wholesale price, plus shipping costs. When a shopper buys something, the manufacturer is notified and ships it directly to the customer.

CUC makes its money, not from the merchandise, but mostly from membership fees (\$69 per year) and from the vast amount of *transaction information* it accumulates.

CUC also launched a series of specialized on-line services: Travelers Advantage (a full-service travel agency), AutoAdvantage (purchase and maintenance of cars), Premier Dining (the first national discount dining program), BookStacks (on-line book purchases), MusicSpot (CDs), and Shoppers' Advantage (a general on-line merchandising service that, by 1993, had 50 million members buying from a database of more than 250,000 products). CUC also acquired successively: Madison Financial Corporation (now FISI Madison, the world's largest financial marketing organization), Benefit Consultants (insurances), Entertainment Publication (publisher of discount books), Sierra On-line (a software firm), and a large European licensee.

Forbes also cut deals with America On-line, Prodigy, CompuServe, Citibank, Sears, and other similar "brandnames" to provide their on-line shopping services. So without any CUC publicity (on-line or otherwise), and all shipping being handled directly from the manufacturer, most customers have no idea that they ever dealt with CUC. Total sales volumes don't even have to be reported because they are directly credited to the manufacturers or service suppliers.

HFS comes from a totally different world, except that most of its customers are just as ignorant of its existence as are those of CUC. It was founded in the early 1990s by Henry Silverman. The story began when he engineered the acquisition of the hotel chain licenses of Ramada Inn and Howard Johnson. For these, \$170 million was paid, and for Days Inn, \$295 million. They became a publicly owned corporation in 1992 under the HFS name. It then further acquired Super 8 for another \$120 million, making it the world's largest hotel franchiser. Silverman explains that few people understand the advantages of being a franchiser instead of an outright owner. The franchiser provides advertising for the brand name, runs the reservation systems, and supplies training and inspection on the franchisees. In short, the franchiser handles only the clean *information* aspects and is paid a hefty, predictable fee for it. It leaves all the messy and unpredictable aspects to the franchisees, such as the changes in value of the real estate, the continuous maintenance and upgrades needed, the fluctuations of customer flows, and all the labor intensive components.

Silverman also made some other, seemingly unrelated, acquisitions, such as Century 21, ERA and Coldwell Banking in 1995. This made HFS the world's largest franchiser of residential real estate. Later he also acquired PHH, a conglomerate of corporate relocation and financial services, for \$1.8 billion. But the clearest demonstration of the underlying strategy was the handling of the acquisition of Avis car rental for \$800 million. Even before the deal was closed, HFS announced that it would be taking the second largest car rental company public. It would sell off Avis' 174,000 vehicles, 20,000 employees, and 540 car rental locations to the public. The only thing that HFS kept for itself was Avis' *information* and reservation system, which it would run for a nice predictable charge, and of course the Avis brand name for further licensing. As Wall Street has not yet named this strategy, I propose the term "*information asset stripping*."

As a consequence, between 1992 and 1997, HFS's total revenues multiplied by a factor of 10, to \$2 billion, and its net profits multiplied by twenty, to \$475 million. But the most valuable asset is HFS's psychographic, demographic, and transaction data it has accumulated about 100 million US consumers from all its activities, covering half of all the US households.

It was that latter asset that made the 1995 meeting between Forbes and Silverman so productive for both parties. They entered into a partnership that would match CUC's marketing muscle with HFS's client information base. Under the deal, CUC would market its travel, shopping, dining, and auto-clubs to the millions of guests of HFS. However, this is not done using mindless junk mail, primitive cold calling, or email spamming. When you call any of HFS's hotels for a reservation, after the booking is completed, you are asked whether you are interested in hearing about a discount travel club that would ensure some significant savings during your trip. A free gas coupon worth \$20 is part of the incentive. If you say 'yes,' you will be switched to a CUC operator to hear the special offerings available to you if you join the club. The net result: a 30% positive response (compared to the normal 1 or 2% conversion rate of direct marketing). And who could resist? "If you fly, you may want to consider this special deal for an Avis car waiting for you at the airport."

Similarly, if your company relocates, using the services of PHH Corporation, Century 21 will be delighted to supply your staff with great housing, near the new location. Your employees will, of course, have to supply all the personal financial data necessary for them to obtain mortgages from

FISI Madison. But a mortgage requires life insurance for which they have to file all the relevant medical information with Benefit Consultants. When they finally buy that house, via Century 21, they will receive a list of local dining opportunities available through Premier Dining, or an offer on discount books about the area published by Entertainment Publications, as housewarming gift from CUC's Welcome Wagon.

Cendant was formally created from a merger between CUC and HFS via a stock swap, making the whole group capitalization worth \$22 billion. Even Wall Street at first did not understand the Information Age logic behind the deal, so both stocks first dropped by 8%. They recovered after analysts had been briefed about the untraditional synergy available.

By the year 2007, according to Walter Forbes, electronic commerce will capture 20-25% of the gigantic \$2 trillion retail business in the US. Forbes explains: “[the traditional retail industry’s] basic cost--bricks, mortar, real estate, people, taxes, health care--are all going up. They have inventory, we don’t. Our basic costs--communications, database, hardware--are all going down. The advantages of interactive shopping are getting greater.” When asked what will happen to conventional stores, he answers: “Twenty to twenty five percent will just go away,” and he points to the lengthening list of bankruptcies of Montgomery Ward, Woolworth’s, Caldor, and Bradlees. “Or they adapt: malls are already becoming entertainment, baby-sitting sorts of places. The amount of food and fun is going up, and the amount of product is going down. They are already responding to a future that’s not even here yet.”¹⁷⁶ He also forecasts that the concentration of power in the cybereconomy will be much higher than in the old Industrial economy. “At most 10 companies will have 80% of all the on-line business. It could even be five, because scale, as materialized by price, is going to be so incredibly important.” Cendant has started consolidating its different Shopping Advantage websites into a single “one-click” shopping site called netMarket. Given that the Net is global, these five to 10 companies can serve the world, not just the US.

And yes, you probably guessed it: Cendant now issues its own currency, as well. It’s called “netMarket Cash” and you obtain it as a premium for frequent purchasing (5% of the value of a purchase is credited to your netMarket Cash Account). It is redeemable against future purchases: one

¹⁷⁶ Wired (September 1997) pg 287.

million products to choose from, going to three million within three years. Is netMarket Cash a corporate scrip in the making? Or would Cendant be only one of the partners in a joint venture that creates an on-line currency backed by real goods and services?

In 1998, the group could supply about 20% of a typical American household's goods and services (a database of one million items). Its plans were to supply 95% of all needs (about three million types of goods and services) by 1999. However, these ambitious blueprint has suffered a major setback in 1998-99. A very old fashioned accounting scandal has provoked both the resignation of Walter Forbes as Chairman, and a precipitous loss of 80% of Cendant's stockmarket valuation.¹⁷⁷ So it may not be Cendant itself, but yet another -- still unknown -- company that may become the "Information Baron" of the cyberworld.

Cartoon by Singer
"Corporate Buddhism"

From Information Age to

Corporate Millennium

What is important about the Cendant case is that it illustrates one possible outcome of the dynamics of the cybereconomy. It also graphically shows that there are questions that should be raised about the implications of concentrating information power. Market concentration has led to abuses against which antitrust laws have proven necessary. Information concentration could similarly lead to abusive use of personal information.

¹⁷⁷ Wired (February 1999) pg 149.

Privacy at Risk

There are clearly important issues around privacy protection that the new technologies will create. While Cendant may have no intention to abuse its information power, accumulating an unending stream of personal data in any one hand, private or public, is bound to create abuses at some point. No police state has ever been able to reconstruct individual lives at the level of detail possible through an unlimited accumulation of medical, financial and transaction data. Employees have practically no constitutional privacy rights wherever their employer is involved (see sidebar). The Cybereconomy could extend that process to everybody else.

Big Brother = Your Boss?

Technology makes surveillance cheap and easy. According to a 1997 survey by the American Management Association, two-thirds of major US corporations routinely monitor their employees electronically¹⁷⁸. The Fourth Amendment's safeguards against "unreasonable search and seizure" apply only to government surveillance. Corporations are not tied by these constitutional rights.

- In desks, drawers, and file cabinets at the employer's premises, employees have no rights to privacy whatsoever.
- Any email stored or transferred via corporate computer networks can be read by the employer for whatever reason. Similarly, bosses can listen in on any phone conversations without notifying their workers.
- Your Boss may own part of your brain. Innovations you develop on or off the job can be claimed by the corporation. On the other hand, under the Economic Espionage Act of 1996, employees risk jail time for disclosing "confidential intellectual property."
- Employers increasingly cite healthcare costs to justify genetic testing. Workers have no right to "genetic privacy" and no protection from random drug tests.

The most effective solution for avoiding a continuous erosion of privacy is not European-style detailed regulation, or new forms of US-style anti-trust legislation. The best way is to formally clarify ownership rights over personal data. For example, one could specify that all personal data (transaction, medical, financial) belong, by right, to the individual. Only with his or her permission could this data be sold, traded or used for purposes other than the original transaction. The right to data privacy is one right about which the creators of the American Bill of Rights or the UN Human Rights advocates did not have to think at the time.

With the right of ownership of personal data vested in the individual, the consumer:

- Will be informed that the information about him or her exists and can be used for other purposes.

¹⁷⁸ The information in this sidebar is summarized from Wired, July 1998 pg 86.

- Can get something in exchange, such as a special discount, for the permission to waive his or her right to privacy if desired.

Without the acknowledgment of such a right:

- Individual privacy will be pitted against information technology, and technology will ultimately win because a powerful commercial interest exists to ensure this.
- Abuses of information power are bound to occur, and once all the data capturing systems are in place, it will get harder and harder to seek correction.
- Privacy will become a commodity that can be purchased at a price (for example via multiple untraceable digital identities, or special high-level encryption services), but it will then become a luxury service that only the rich can afford, adding privacy-inequality to the other inequalities.
- For the average citizen, the probability of an Information Corporate Millennium will grow as the concentration of information power increases over time.

However, political debates on the cybereconomy everywhere tend to concentrate on issues such as cryptography, taxation, or jurisdiction. The real questions about privacy protection have not yet been asked.

It is important for us to realize that it does not require a dark conspiracy by corporate leaders to create this scenario. Businesses, like most successful organizations, combine reactive with proactive strategies. They react to environments they can't change by adapting to them, and are more proactive when given the opportunity.

The way most global corporations adapted to this new reality is revealed in the choices they made, on the average, to fill the position of CEO over the last decades. In the 1940s and 50s, production was the key variable—the demand for goods in the post-war reconstruction was such that if you could produce it, you could sell it. Hence, the position of CEO was ideally filled by someone with a solid engineering background. In the 1960s and 1970s, CEOs with marketing backgrounds were in, because the business emphasis had shifted to marketing—by then, there were lots of producers

around the world, and selling had become the key to success. By the late 1970s, after President Nixon created a new global monetary reality by floating all currencies, the single biggest business risk for many multinationals were losses due to the ever-fluctuating exchange rates of foreign currencies. Hence, in the 1980s and 1990s, the typical background for a CEO shifted again toward finance.

Paralleling these shifts, over the past 20 years a remarkable double movement has occurred in the way the largest corporations operate: a strong decentralization of the production network has been accompanied by just as strong a global centralization of financial and cash management. Simultaneously, government agendas all around the world have undergone a striking mutation as well. For a long time, corporations have received subsidies from governments to attract their investments, and to create jobs locally. Now, in addition to subsidies, corporations expect a whole array of other priorities, such as low inflation and deficits, deregulation, particularly of the financial sector, freedom of capital flows, and reduced tax burdens. While none of these single trends are “problems,” together they have shifted the power from governments to corporations in an unprecedented way.

It is certain that the Information Age will deal a whole different set of cards to all the players, and modify the balance of power between governments, corporations and the population at large. This new game promises to shift power away from governments and regulatory authorities, as well as from the public. There are no direct quantitative measures for such power shifts, but the dramatic trend of privatization that is sweeping the world provides some indication of what is going on. Figure 4.1 shows the process of systematic liquidation of government controlled assets. Before Britain’s Mrs. Thatcher, privatization was a rare event. Since then, a worldwide trend has caught on. For the year 1997 alone, the volume reached some US\$157 billion, five times what it was in 1990. Developing countries have recently embarked on the same process, representing at least 30% of the total.

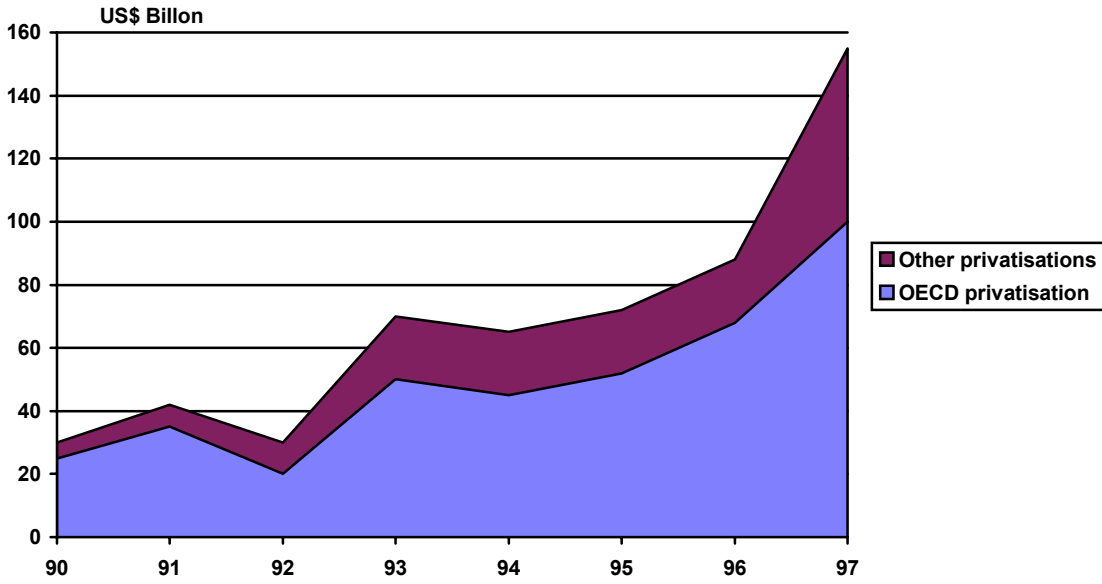


Figure 4.1 Global Privatizations 1990-96 (sources: OECD¹⁷⁹, The Economist)¹⁸⁰

I happen to believe that it is rarely “healthy” for governments to own businesses. But the point here is that this unprecedented global trend towards privatization is one indicator for the growing loss of influence that governments have over their economies.

¹⁷⁹ OECD is the Organization for Economic Cooperation and Development, based in Paris. It regroups the 24 most “developed” countries in the world.

¹⁸⁰ The Economist (March 22 1997) pg 143 and (March 21, 1998) pg 135

There are many other indicators of the plausibility of the Corporate Millennium (see sidebar). There are also signs that the US general public actually expects some form of Corporate Millennium to emerge, and may even be preparing for it. In a remarkable survey to test the values of nine million freshmen on 1500 campuses over the past 30 years, Professor Astin of UCLA arrives at some revealing results.¹⁸⁶ The following graph illustrates the response to two

Corporate Power: Some Facts and Figures

- Of the 100 richest economies, 51 are now corporations. For instance, sales by General Motors are greater than the GDP (Gross Domestic Product) of Denmark, or Ford than South Africa.
- The world's 200 largest corporations now control 28% of the global economy, yet need to employ only 0.3% of its population to achieve that.¹⁸¹
- The sales of the world's largest 200 corporations are equivalent to 30% of global domestic product. Their total annual sales (US\$7.1 trillion) are larger than the combined GDP of 182 countries (i.e. all but the largest nine countries).
- About one third of global trade is really intra-corporate trade, i.e. one subsidiary exporting to another subsidiary controlled by the same corporation.
- American corporations pay less in US taxes than they receive in public subsidies from US taxpayers.¹⁸² In 1994, US corporations received \$167 billion in tax breaks, to be compared with \$50 billion in total federal expenditure on welfare (AFDC).¹⁸³
- Business Week reports in 1997 that the compensation for American CEOs of these same publicly subsidized corporations have soared to an average of US\$5.5 million per year, while the wages of the working population remained stagnant. In the 1960s, CEOs' salaries were 30 times greater than those of the average worker; compared with 200 times today.¹⁸⁴
- For every dollar in total taxes (local, state and Federal) paid by individuals, corporations used to pay 76 cents in the early 1950s (1950-54). By 1980-92 corporate taxes are down to 21 cents per dollar of individual taxes.¹⁸⁵ In Canada, even in a year of record corporate profits, like 1996, corporate income taxes were down to 14.5 cents for each dollar of individual taxes

“value” questions about the reasons for going to college. Whether it was essential or very important to “Develop a Meaningful Philosophy of Life” or to “Be Very Well-off Financially.”

¹⁸¹ Sarah Anderson and John Cavanagh in a study performed for the Institute for Policy Studies (1996).

¹⁸² Hawken, Paul quoted by Korten, David The Post-Corporate World: Life after Capitalism (San Francisco: Berrett Koehler, 1999) chapter 2 pg. 8.

¹⁸³ cited in A Matter of Fact Vol 25, July-December 1996

¹⁸⁴ Hacker, Andrew : Money: Who has how much and why (New York: Scribner, 1997) Chapter 8 (pg. 105-122)

¹⁸⁵ Bureau of Census: Government Finances Series GF, #5 various years. See also Bartlett Donalds and Steele, James: America: Who Really Pays Taxes?

¹⁸⁶ Astin, Alexander W.; Parrott Sarah A.; Korn, William S.; Sax, Linda J. The American Freshman: Thirty Year Trends 1966-96 (UCLA, February, 1997)

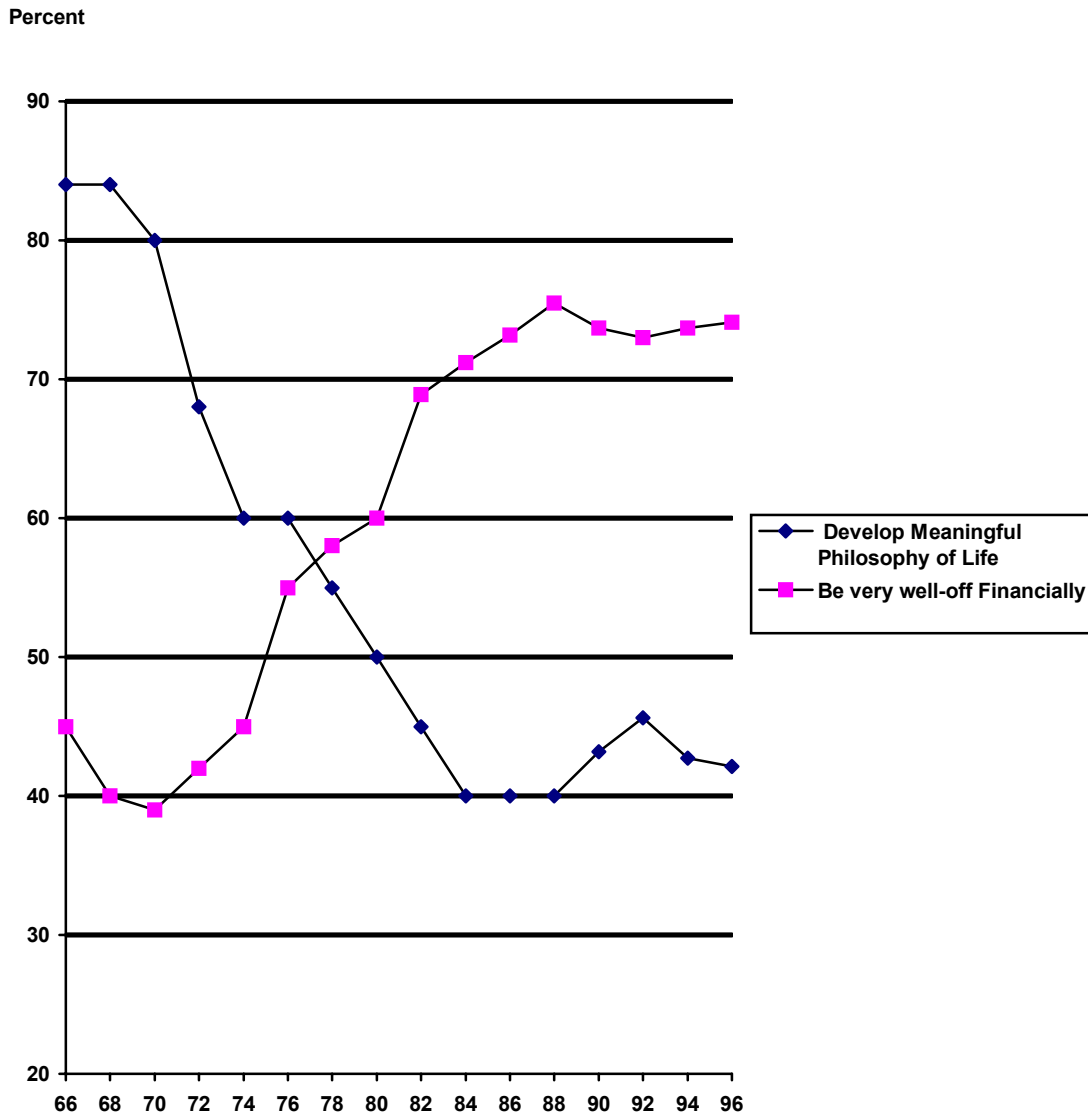


Figure 4.2 Objectives of US Freshmen (1966-96) valuing “essential” or “very important” (in percent). (Survey of nine million Freshmen in 1500 US Campuses).

The most noteworthy result of the entire survey was the radical switch between these two objectives. In 1968, an astounding 82.9% of entering freshmen said it was “essential” or “very important” to “develop a meaningful philosophy of life.” At that time, only 43.3% said that being “financially well off” was “essential” or “very important” to them.

By 1996, the two objectives had completely traded places. “Financially well off” is now top priority for the vast majority (74.1%), while the “meaningful philosophy of life” is now down to fifth priority, (relevant for only 42.1%). It is significant that the statistical variable that seems to best explain this switch in values was the number of hours of television watched before arriving in college. This indicates that if one ranks all nine million freshmen by the number of hours of TV they watched before arriving on campus, those who watched the least tend to believe that values other than making money matter. In contrast, those who were exposed to many hours of TV would invariably tend to believe that only money is important. The reason that this switch showed up over time is that the viewing habits of freshmen have gradually shifted over the decades.

According to Professor Astin’s analysis, the generation coming to college during the 1960s had been exposed to much less TV, largely because the majority of American homes did not have a black-and-white TV in the 1950s, when these freshmen grew up. By the 1980s, almost all US homes had at least one and often several color TVs. As of 1997, by the time American children leave high school, they have spent more than 20,000 hours watching television--almost double the 11,000 hours they will have spent in the classroom.¹⁸⁷ “Given that the commercial message on television is, almost by definition, materialistic, and given that much of the programming itself celebrates materialistic values (“Dallas,” “Lifestyles of the Rich and Famous,” etc.), it is perhaps to be expected that a lot of television would tend to promote materialistic values among young persons. [...] Certainly, television does not promote contemplation or reflection on the great questions of life”¹⁸⁸

Is it possible that this trend is the result of what Noam Chomski has termed “manufactured consent”? The purpose of mainstream media, Chomski claims, is not so much to inform or report on what happens, but rather to shape public opinion in accordance with the agendas of the prevailing corporate powers. As the Last Prime Minister of the UK observed, because the corporate world was also controlling the content of the media it was able to neutralize any compensating power that the media might otherwise have provided. As a result “Virtually everywhere the mass media provide people primarily with commercial messages...It is hard to discover in most of today’s newsmedia

¹⁸⁷ The Economist (July 5-11th, 1997) pg 65

¹⁸⁸ Astin, Alexander W.; Parrott Sarah A.; Korn, William S.; Sax, Linda J. The American Freshman: Thirty Year Trends 1966-96 (UCLA, February, 1997) pg. 14

the kind of information that would help citizens of democratic societies to reach well -informed political decisions...The media have been called ‘Weapons of Mass Distraction’¹⁸⁹

¹⁸⁹ Hamelink, Cees J. “The Right to Communicate” IDOC Internazionale (January-June 1999).

Advertising EVERYWHERE¹⁹⁰

Advertising is ubiquitous, to the point of being the cultural expression of our times. We have become accustomed to being bombarded with ads as we watch a TV program or even movies and videos. Here are some other spaces that used to be ad-free:

- Giant labels on clothing transform their wearer into a free billboard walker.
- Fruit Label Company, based in California, places ads on fruit: the video-release of Jurassic Park was accompanied by little ad labels on 12 million Granny Smith and Fuji apples in supermarkets across America. The possibilities are endless: labeling lemons with “if you don’t want a lemon, buy a Ford,” or fresh tomatoes with Campbell Soup stickers.
- Autowraps Inc in San Francisco, and FreeCar Media in LA are wrapping cars with giant adds in digitally printed vinyl from top to bottom, including windows. “It is better than billboards. It comes to you.”¹⁹¹ To qualify for the \$400 per month income, one needs to be driving at least 800 miles per month, and park in high-value billboard-less neighborhoods. Verification by global satellite positioning.
- Nike obtained a big pay-off in its \$100 Million, 5-year contract from the golfing successes of Tiger Woods. He is indeed their “head to toe Nike man: from Nike footwear, clothing, gloves and hats, to the Precision Toner Accuracy ball.”
- Another promising new advertising medium are the beaches, where for \$25,000 per month a message is inscribed every day in gigantic lettering in the sand. Credit is given for rainy days because “fewer people will be exposed to the ad.”
- “Reebok commissioned a New York artist to spray paint onto sidewalks and streets without city permission.”¹⁹²
- The first ads have started appearing at eye level in public bathrooms and urinaries, taking advantage of a “captive market”.
- With government cuts to education, more and more universities are cutting costs by marketing their students to corporations. When a Stanford University computer course is given in the Hewlett Packard auditorium of the Bill Gates Computer Science Building, has the medium become the message? University campuses are also a main target for Cycle Stops Displays, an Ottawa-based company that provides free bicycle stands for campuses with the condition that they are adorned with eye-level ad panels. The University of Guelph has been the first to accept these racks.
- The US Supreme Court ruled in 1995 that a color can become a registered trademark. Pepsi’s global marketing campaign called “Project Blue” includes registering a royal blue as a patented color and a \$50 million production for the first ad filmed in space in cooperation with the Russian space station Mir. Pepsi is also considering a giant permanent satellite billboard in space visible around the world as soon as the technology becomes affordable.
- Sounds can now also be patented. MGM has trademarked its “lion’s roar,” NBC its “three chimes,” and Harley Davidson filed a petition on the “hog call” or the sound of a “45-degree V-twin single crankpin motor.”
- The James Bond movie “Tomorrow Never Dies” refined the concept of “global integrated film promotions,” by marketing the movie and a series of tied-in products simultaneously. Avis Rent-A-Car, BMW, Smirnoff vodka, Visa International and Heineken have all announced tie-in promotions. For instance, panels of the 007 star will grace point-of-sales displays wherever Heineken beer is sold; and in the film, 007’s BMW smashes spectacularly into a Heineken beer truck.
- “Virtual Advertising”, the use of digital computer images which are inserted in TV scenes started in sport’s events (e.g. a giant Cola add appears live in the middle of the playing court), but have now spread to entertainment programming as well. It enables an Evian bottle to be placed on a table, or a fashion retailer’s shopping bag in a hotel lobby, where none were at the moment of the original shoots. These adds in live programming are more impactful than those in the breaks, because “people pay more attention during the show than during a commercial”¹⁹³ and because the inserted adds can be changed for different re-runs and markets. This makes the debate over the colorization of old black-and-white movies look quite quaint.
- The Academy of Arts and Television--the organization that hands out the Emmy awards--has since 1997 added a new “Best Commercial” category. After all, the most talented people in the industry and a lot more money goes into producing TV ads, rather than the programs themselves.
- On the other hand, Dr. Marty Rossman, director of the Academy of Guided Images, which has pioneered the use of imagery for medical purposes, claims that advertising should be considered “pollution for the imagination.” He says that the use and abuse of the most powerful images to make people feel incomplete has enormous consequences in social and health costs. The most powerful archetypes, from the female body to subliminal color combinations, are proven quite effective at selling products, but at what psychological and health cost?

¹⁹⁰ Most of the examples provided were documented in [Adbusters: Journal of the Mental Environment](#) (Winter 1997). Exceptions are the examples of the beach advertising and Metro Cinevision that were reported on Public Radio International (PRI) and those with separate footnotes.

¹⁹¹ USA Today, September 15-17, 2000.

¹⁹² [Technology Review](#) Sept-October 2000, pg 122.

¹⁹³ Stuart Elliott “Digital Image Magic: Going where no Ads Have Gone Before” [International Herald Tribune](#) (October

Unlike other species, over at least the last 300,000 years, humans have evolved a genetically built-in need to ponder and celebrate the mysteries of the universe they live in. During their evenings mesmerized in front of the TV, children today find the equivalent of myths, story telling and elder's chants in initiation caverns. "One could say that the chant has been replaced by the TV show, but at the core of each show, driving the action, and determining whether or not the show will survive the season, is the advertisement. What is the effect on our children? A child will have soaked up 30 thousand advertisements before it enters first grade class, and before entering in any real way into our religious ceremonies. None of us feels very good about his, but for the most part we ignore it. It's background noise. We learned to accept it so long ago that we hardly think about it anymore.

This idea of advertising becoming today's religion may be shocking to some, but advertisers themselves make that point: "Brands are the new religion. People turn to them for meaning," the ad agency Young & Rubicam declared, according to a report in *The Financial Times*.¹⁹⁴ Fitch, the London design consultancy, noted that people flocked to Ikea instead of church on Sundays. Since 1991, it added, 12,000 people had been married at Walt Disney World, and it was becoming common in the United States for Harley-Davidson motorcycle aficionados to be buried in Harley-branded coffins. Jim Williams, Young & Rubicam European strategy director claimed that brand builders could be compared to the missionaries who spread Christianity and Islam around the world: "It was the passion with which they communicated those beliefs that led to people responding in their millions, because the religions were based on powerful ideas that gave meaning and purpose to life".

But at the deeper level, what we need to confront is the power of the advertiser to promulgate a world view, a mini-cosmology based on dissatisfaction and craving. One of the clichés for how to construct an ad captures the point succinctly: "an ad's job is to make them unhappy with what they have."¹⁹⁵ In short, values are not inborn but a cultural creation, and our culture has become saturated by the corporate advertiser's agenda (see sidebar on advertising everywhere). The net result is that materialism and consumerism has become the real religion and world view that gets inculcated in

2-3,,1999 pg 9-10.

¹⁹⁴ Source: ZENIT.org News Agency (6-Mar-2001)

¹⁹⁵ Swimme, Brian: "The hidden heart of the cosmos" conference presented at the State of the World Forum. San Francisco, November 1997.

contemporary children.

Notice that here again we do not even need a dark conspiracy for any of this to happen. During the heydays of the 1950s and 1960s, broadcast technology did not enable broadcasters to charge consumers directly. So they charged advertisers for time used to expose viewers to ads interwoven with programs. “This created a bias toward lowest-common-denominator programming. Consider two programs, one which will fascinate 500,000 people, and the other which 30 million people will watch as slightly preferable to watching their ceiling.” If the advertisers pay for the program, they will prefer the mass audience because its degree of interest in the program has little relationship to the effectiveness of the ad. If the viewers were to pay, they might very well get the niche program. “As a result, charging-for-advertising gives every incentive to broadcast what a mass audience would tolerate. It gives no incentive to broadcast what a niche would love.”¹⁹⁶

¹⁹⁶ De Long, Bradford and Froomkin, Michael : “The Next Economy” in Hurley, Deborah ; Kahin, Brian and Varian, Hal Internet Publishing and Beyond: the Economics of Digital Information and Intellectual Property (Cambridge: MIT Press, 1998). *Italics added.*

Education Inc.

After graduating from commercial TV kindergarten, Education Inc. could very well become the future of schooling, all the way to the most prestigious universities. “This is the future: universities will have to become entrepreneurs, working with corporations on curriculum and other matters or they will die” was the conclusion of Del Weber, chancellor of the University of Nebraska at Omaha,²⁰¹ after First Data Resources built an engineering school on his campus designed specifically for the needs of that corporation. Is this corporatization of the university yet another step in the direction that so many other aspects of society are already moving? (see sidebar)

EVERYTHING, Inc.

Here are some arenas in life that, traditionally, have not fallen within the corporate domain, but where new trends can be detected:

- “We should recognize that the architectural reconfiguration of our cities and towns has been an undemocratic event - with decisions in effect handed down from above by an assembly of corporate agents.”¹⁹⁷ Extreme forms of this include malls with their own rules and security force replacing public streets; or sports clubs replacing public playgrounds. Entire incorporated suburbs and “walled communities” built and run by corporations replace cities. The number of such “secure communities” rose from 1,000 in 1965 to 80,000 in 1985, and this trend has accelerated recently.
- Your genes belong to a few dozen corporations that have patented them, notwithstanding that taxpayers to the tune of \$3 billion funded the bulk of the research. The claims are not only for the genes themselves, but all future discoveries that uses a particular gene.¹⁹⁸
- The “world’s most effective peacemaking force” is not run by the United Nations but by Executive Outcome, a South African mercenary company.
- A company that operates and maintains Ballistic Missile Early Warning Systems, maintains combat aircraft, manages airports and prisons, also operates tunnels, polices cities, maintains municipal water supplies, sewage and communication systems in thirty countries.¹⁹⁹
- “While governments fight against drug abuse, often with pathetic results, pharmaceutical corporations have worked through governments to receive sanction on drugs such as stimulants and anti-depressants - whose effects, it could be argued, are as great as those of outlawed drugs.”²⁰⁰
- Many sports, churches, and religious sects have become big businesses.
- Dennis Judd, Urban Affairs Department of the University of Missouri at St Louis, concludes, “We have always put up with restrictions inside a corporation that we would never put up with in the public sphere. But what many do not realize is that life within some sort of corporation is what life will increasingly be about.”

In tracking the way freshmen perceived the importance of “Keeping up with Political Affairs” (Figure 4.3), Professor Atkin addresses another aspect of the purpose of a college education. The results also illustrate a concern expressed by the Last Prime Minister.

¹⁹⁷ Kaplan, Robert in “Was democracy just a moment?” *Atlantic Monthly* (Decembr 1997) pg 73

¹⁹⁸ *Technology Review* Sept-October 2000 pg. 50.

¹⁹⁹ Serco Ltd. is a business listed in the London stock-exchange, and saw its turnover grow tenfold in the decade to 1998 to Pounds 574 Million. It has now 20,000 employees active in 32 countries. See www.serco.com

²⁰⁰ *Ibidem* pg 71

²⁰¹ quoted by Kaplan, Robert in “Was democracy just a moment?” *Atlantic Monthly* (Decembr 1997) pg 73

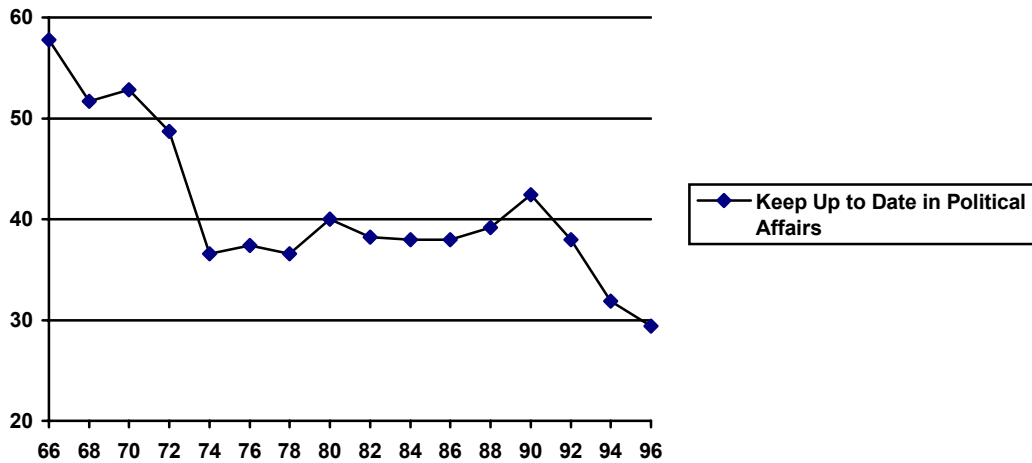


Figure 4.3: Objective of US Freshmen (1966-96) “Keeping up with Political Affairs” valued “essential” or “very important” (in percent)

This graph indicates that even freshmen have concluded that politics is becoming increasingly irrelevant, and that the real decision-making power is elsewhere. Political debate has barely addressed this question. “Whereas the Liberal mistake is to think that there is a program or policy to alleviate every problem in the world, the conservative flaw is to be vigilant against concentration of power in government only--not in the private sector where power can be wielded more secretly and sometimes more dangerously. ...Corporations are like feudal domains that evolved into nation-states, they are nothing less than the vanguard of a new Darwinian organization of politics.”²⁰²

There are indications that many people are becoming more aware of the risks of the Corporate Millennium. A few examples follow:

Media Credibility

- The credibility of the media in general has dropped to a historic low: a 1997 Harris Poll finds only 18% of the US public still have confidence in TV news, and 12% in the press. This percentage has shown a steady decline; the corresponding numbers in 1990 were respectively 27% and 18%. Another poll showed that in 1985, 84% of Americans felt their newspaper did a

²⁰² Kaplan Robert Kaplan, Robert in “Was democracy just a moment?” Atlantic Monthly (December 1997) pg 76 and pg 73

good job at being fair; by 1996 that number had fallen to 47%. In 1985, 55% of Americans believed that news organizations “got their facts right.” By 1997 that number had declined to 37%.²⁰³ Fewer people bother to look at mainstream TV: the television audience, controlled by the three major networks (ABC, NBC, CBS), dropped from 75% in 1987 to less than half (49%) in 1997. It has become a practice for many magazines to submit articles for prior review by the advertisers. The Los Angeles Times has even reorganized its management structure in order to maximize advertiser/editor cooperation.

- However, there is also a growing awareness of the deadly trap that a Corporate Millennium means for the credibility of the media. “Establishing credibility means developing a reputation for providing correct information, even when it may reflect badly on the information provider.”²⁰⁴ In short, in an information age, credibility is the real capital. And playing to the corporate agenda for short-term financial benefits is squandering that capital, which is potentially irretrievable. Peter Bhatia, member of the Board of Directors of the American Society of Newspaper Editors, says: “Our credibility is as low as it’s ever been. There is a lot of soul-searching going on right now in our industry.”²⁰⁵ The Columbia Journalism Review called the censorship that results from corporate-editorial cooperation “The Big Squeeze.”²⁰⁶ In a democracy, what is ultimately at stake is the legitimacy of both the media and the corporations.

In a remarkable exception, *Time* magazine published a whole special report on “Corporate Welfare”²⁰⁷. It defines corporate welfare as “any action by local, state and federal government that gives a corporation or an entire industry, a grant, real estate, a low-interest loan or a government service. It can also be a tax break.” The conclusions: “the Federal Government alone shells out \$120 billion per year in corporate welfare...The justification for much of this welfare is that the US government is creating jobs. Over the past six years, Congress appropriated \$5 Billion to un the Export-Import Bank of the United States, which subsidizes companies that sell goods abroad...But

²⁰³ Lempinen Edward “Journalists Probe Their Own Credibility Gap” San Francisco Chronicle Saturday, August 2, 1998 pg A7

²⁰⁴ Keohane, Robert & Nye, Joseph “States and the Information Revolution” Foreign Affairs (September October 1998. Volume 77 Number 5) pg 90.

²⁰⁵ Lempinen Edward “Journalists Probe Their Own Credibility Gap” San Francisco Chronicle Saturday, August 2, 1998 pg A1.

²⁰⁶ Baker, Russ “The Big Squeeze” Columbia Journalism Review (October 1997).

²⁰⁷ Barlett, Donald L. And Steele, James B. “What corporate welfare costs” Time (November 6, 1998)

the numbers of the bank's five biggest beneficiaries - AT&T, Bechtel, Boeing, General Electric and McDonnell Douglas (now a part of Boeing) - tell another story. At these companies, which have accounted for about 40% of all loans, grants and long-term guarantees in this decade, overall employment has fallen 38%, as more than a third of a million jobs disappeared. A whole lobbying industry includes now an estimated 11,000 organizations and agencies all aiming at obtaining subsidies from the different governmental agencies. They have their own journals and newsletters, seminars, conferences and training sessions. The picture is much the same at the state and local level...There are no reasonable estimates on the amount of money states shovel out. All that is certain is that the figure is in the many billions of dollars each year, and it is growing, when measured against the subsidy per job" (see sidebar). To *Time's* credit the special report mentioned under the title "We play the game too" a series of subsidies obtained by Time Warner, Inc, the parent company of the magazine itself.

Subsidies per Job Created

The subsidies per job give an indication whether the 'job argument' for subsidies is valid.²⁰⁸

- The State of Illinois paid \$44,000 per job to Sears, Roebuck & Co to keep its corporate headquarters from moving out of the State
- The State of Indiana paid \$72,000 per job to United Airlines in an aircraft maintenance facility.
- The State of Alabama gave \$169,000 per job to Mercedes-Benz for its automobile assembly plant in Tuscaloosa.
- The State of Pennsylvania gave \$323,000 per job to Kvaerner ASA, a Norwegian engineering firm to re-open the Philadelphia Naval Shipyard.
- The State of Louisiana has the record with subsidies to Uniroyal (\$100,000 per job); Procter and Gamble (\$3,100,000 per job); BP Exploration (\$4,000,000 per job); Dow Chemical (\$10,700,000 per job) and Mobil Oil Co. (\$29,000,000 per job).

Corporate Welfare

What *Time* did was just confirm the claims made for years by consumer advocate Ralph Nader who ran for US President in 1996 and 2000, in a campaign totally ignored by mainstream press... He made an inventory of 120 "corporate welfare programs," from which he reports:

"It is hard to find a major industry today whose principal investments were not made by the government--in aerospace, telecommunications, biotechnology and agribusiness. Government research and development money funds the pharmaceutical industry. Nobody talks of aid to dependent corporations. It's all talked about in terms of 'incentives' [...]. At the local community level, in cities that can't even refurbish their crumbling schools, where children are without enough desks or books--local governments are anteing up three, four, five hundred million dollars to subsidize corporate sports. ...Corporations have perfected socializing their losses

²⁰⁸ All data of this sidebar from Barlett & Steele *Ibidem*

while they capitalize their profits. There was the savings-and-loans debacle--and you'll be paying for the half-trillion dollar bailout in terms of principal and interest until the year 2020. Corporations can go on our lands out West and get subsidies to destroy it (see sidebar on next page).When you grow up corporate, you don't learn about the reality of corporate welfare."²⁰⁹

- The American Petroleum Institute, for example, has a lobbying team in Washington with over 500 full-time employees and a budget of \$50 million per year. This has to be one of the best oil-well investments in the business. Harold Hubbard in an article in *Scientific American* estimates that the total subsidies, hidden and direct, benefiting the conventional energy business "range between \$100 and \$300 billion per year in the US alone."²¹⁰

²⁰⁹ Nader, Ralph: Civics for Democracy (Essential Information POBox 19405, Washington DC 20036).

²¹⁰ Hubbard, Harold R. "The real cost of energy" Scientific American Vol 264 no 4 (April 1991) pg 36.

Autonomous Corporate Power

- David Korten, a Ph.D. from Stanford Business School, who also taught at Harvard Business School before serving with the Ford Foundation and the US AID program in Asia, concludes that “the contemporary corporation increasingly exists as an entity apart--even from the people who compose it. Every member of the corporate class, no matter how powerful his or her position within the corporation, has become expendable--as growing numbers of top executives are learning. As corporations gain in autonomous institutional power and become more detached from people and place, the human interest and the corporate interests increasingly diverge. It is almost as though we were being invaded by alien beings intent on colonizing the planet, reducing us to serfs, and then excluding as many of us as possible.”²¹²

Subsidies to Destroy the Land

There are actually a whole series of subsidies whose main effect is to encourage corporations to destroy land in the US. The Economist, hardly suspect of anti-corporate bias, lists the following examples.²¹¹ Both Democrats and Republicans support such policies, ironically in the name of rugged individualism said to be typical of Western way of life.

- The mining subsidies have remained basically unchanged since 1872 when Congress wanted to encourage settlements in the Far West. Anyone who can identify a piece of federal land with hard-rock minerals in it - such as gold, silver, platinum or copper - can obtain a patent to buy the land for \$2.5-5 per acre. In 1994, a mining company paid \$9,765 for an area in Nevada with a gross mineral value of \$10 billion. Between May 1994 and September 1996, land containing \$16 billion-worth of minerals was sold for \$19,190. The government does not get a penny in royalties. In addition, miners leave an expensive clean-up job for others to perform. The Western Governor’s Association estimates that more than 3,000 miles of streams are polluted by hard-rock mining wastes. There has been a moratorium on new patents since 1995, but every effort at reforming the law has failed.
- Ranchers graze their life-stock on both public and private lands. The difference is that private landowners receive an average \$11.20 per cow in 11 states; compared to \$1.20 per cow for grazing fees on federal land. The Federal government recovers in this way only \$25 million of the \$77 million it costs just to administer the program. This subsidized grazing occurs on 270 million acres of American land, an area the size of California and Texas combined. In addition, a study by the Bureau of Land Management estimates that 60% of its range-lands have lost half of their native plants and grass species as a consequence of this program.
- The system of timber sales dates from 1897, and includes the construction -- at government expense--of logging roads in virgin federal forests. Here again, the revenue of the timber sales does not cover the costs of the program. Every bill to introduce a moratorium on continued subsidies for such road construction has failed.
- It takes 3,400 gallons of heavily subsidized water to grow one dollar’s worth of sugar beets in California, a state where water is scarce. The Everglades in Florida were drained in the name of flood control from the 1920s to the 1970s, destroying most of a unique ecosystem. Then 700,000 acres of sugar were planted on the recovered land. This acreage is currently still expanding, despite a \$1.5 billion federal program to buy back Everglades land used for sugar plantation. Meanwhile, prohibitive tariffs keep sugar produced by low cost countries from being imported.

- Ian Angell, Professor of Information Systems at the London School of Economics, writes in the British newspaper The Independent: “The main problem of the future will be the glut of

²¹¹ “How subsidies destroy the land” *The Economist* (December 13, 1997) pg 49

²¹² Korten, David :*When Corporations Rule the world* (San Francisco: Beret Koehler Publishers) , 1997) pg 74

unnecessary people who will be irrelevant to the needs of corporations, and therefore will be uneducated, untrained, aging and resentful... The slow redistribution of wealth to which we became accustomed after World War II is already rapidly reversed, so the future is one of inequality. We are entering an age of hopelessness, an age of resentment, an age of rage. ... The world belongs already to the global corporation. The nation state is now desperately sick.”

- Peter Montague, from the Environmental Research Foundation (Annapolis, Maryland) says: “The corporations pretty much determine all the basics of modern life, just as the Church did in the Middle Ages. ... Small corporate elites pretty much determine what most of us will read; what we will see in theaters and on TV; what subjects will become public issues permissible for discussion and debate; what ideas our children will absorb in the classroom; how our food and fiber will be grown, processed and marketed; what consumer products will be made by what technologies using what raw materials; whether we will have widely available, affordable health care; how work will be defined, organized, and compensated; what forms of energy will be available to us; how much toxic contamination will be present in our air, water, soil and food; who will have enough money to run an election campaign and who will not.”

The Root Cause?

While these concerns are relevant and poignant, I have come to the conclusion that they are attacking symptoms rather than causes. In Modern Western history, power and influence have traditionally been shared and/or balanced between four “estates”-- the government, business, academe, and the media. Today, more blatantly and directly than ever before, *money is controlling all four of these estates*. Even CEOs of the most powerful corporations are obliged to do what the financial market wants, or they are fired and replaced by someone who will. Giving priority to long-term thinking over next quarter’s profits is brutally punished under the present money system. At some level, we *all* are prisoners of the same money game.

In short, ***the money system is what creates the structural conflict experienced by so many CEOs between stockholder’s interests, their own personal ethics, and their concerns for their grandchildren’s future***. My contribution to addressing this dilemma is to propose a money system that will harness corporate power and direct it toward the goal of long-term sustainability (Chapter 8: the Global Reference Currency--Making Capitalism Sustainable).

Even though it may seem that The Corporate Millennium is looming before us, this scenario is only one of the ways in which the power shift away from the nation-states could manifest itself. The next scenario--Careful Communities--reveals another very different set of dynamics.

Careful Communities

The other night I woke up from a strange dream.

I had dreamt that I was in San Francisco, at the colorful intersection where Haight Street meets Golden Gate Park. I was sitting in a coffee shop, next to a little shop with a garish sign saying "Tsumoto Tattoos." I was overhearing a long monologue of a parent talking to an adolescent. There was a calendar hanging on the wall in the coffee shop--a calendar of the year 2020.

Here is how the monologue went.²¹³

Haight Street 2020

[Border decor in a futurist hippie style?]

I got this first one at Nike. Back in '94. I was 23, a kid. I worked there delivering--get this--mail. Yeah, paper. Yeah, back when you still could cut down trees. Anyway. We all got them. Sort of started the thing, you know? The "tatsume," tattoos to mark your jobs, your history, your path. The tat identified you as family.

This one is from Microsoft. No, I don't mean "Sonysoft." Microsoft, back when Gates was alive. Yeah, you've heard of him. That's the Windows 95 banner, well, reworked to be the Windows 98 banner. I did phone support. Yes, humans did that, punk. I lived in Seattle at the time. A bunch of us live together in a house near Capitol Hill. It wasn't a commune or some other hippified label that you find in the docs. Those days, we were only sharing living space; we didn't share anything else. No, not even companions, this was before the treatment.

²¹³ Abbreviated and adapted from the Scenario prepared by the Global Business Network about Generation X [Netview](#) Volume 7, Number 1 (Winter 1996) pgs. 5-7.

I met this really great woman in San Francisco--I ended up moving down here in '99. That's the logo for Java Jonestown, the coffeehouse where I worked in North Beach. Strange things started happening just after that. Religious nuts and the year 2000 computer bug²¹⁴ combined to spread a feeling of unreality and fear of the future in almost all aspects of everyday life.

In 2000, my folks moved to Idaho to join some end-of-the-world religious group. They kept trying to get me to move out there too, but each time I went it was more and more clear that I would never really fit in. I wasn't the right age and I didn't have kids. When I finally left, the Idaho Christian Fellowship (Kuna Community) wasn't too sad to see me go. What was weird, though, was in my trips back and forth, and in mail to the home back in San Francisco, I realized the exact same thing was happening there. Everyone was locking themselves up into tight little homogeneous communities, even the hipsters and queers, and everyone was closing in on their own little niche.

Then came the Big Crash. I never really understood what the hell brought down the whole house of cards of the old money game. All I know is that it started with the banks in Japan going belly up on a trillion dollar loss or something, and the whole thing was over before they could even print the newspapers to talk about it. Nothing was the same after that: governments, businesses, everything that depended on international contacts got into trouble at the same time.

That there is the Americorps II barcode--one of the last things that central government managed to launch. Etzione thought of that, at HUD, and the conservatives loved it. Kept track of us; kept us safe. Kept us careful. Half of my house joined the Corps, even while we worked at Microsoft. The Big Crash had left us all shaken up in some way--jobs, friends, losing houses on mortgage payments, whatever--and we all needed some way to work it out. I did on-line counseling. That's why the Corps-code is blue.

For California, the cherry on the cake came when the Really Big One hit. Almost everybody lost

²¹⁴ The "Millennium Bug" or "Y2K" in computer jargon will be explained below. See also Mark Ludwig Millennium : Gateway to a Cashless Society (American Eagle Publish. 1997) and Edward and Jennifer Yourdon Time Bomb 2000 (New York: Prentice Hall, 1998).

someone they knew. I was among the lucky ones: that day I was out seeing some suppliers up in Sonoma. That earthquake also closed the chapter on the relevance of Washington big wigs for us here. The Big Crash had loosened the financial grip. After the Really Big One, they had just to let go of all the rest it.

One of the key tools that made it possible for everybody to lock themselves into such self-contained cocoons was all these local currency systems. Some had been around for 10, even 20 years, but few people took them seriously then. After the “Millennium Bug” and the Big Crash, they started spreading like wildfire, just for survival.

When you were born, my parents really wanted us back out in Idaho, but I didn’t want you growing up there. They put a lot of pressure on me, but I finally decided to stay in SF.

You may not know this, but SF used to be a pretty diversified city, with a lot of high-tech jobs, and people traveling all over the place. I still managed to move around after everybody had already locked themselves up in little community cultures. That’s because we’re part of a “cosmopolite” com, a community that works with other communities, trading ideas. When you’re old enough you should get out, too. Take a look at the world. The differences between communities will surprise you, because they aren’t what you expect. Lots of places keep themselves safe by locking out not just people that don’t fit in, but ideas that don’t fit too. Even moovies are altered, sometimes the language, sometimes the characters. You should see how the newsnets are changed from place to place. With these new imaging techniques, they can shape anything to order. So all information flows within a com, and from the outside world into the com, can be nicely shaped to fit the world view of the com’s inhabitants. Some places around the country are spooky, with houses that all look alike and families that all look alike. I guess people find it easier that way. Most of them seem to like it, and those coms are pretty safe.

I think I’ll try to take you to Europe, if we can make it work. The patchwork is still different there. But I’ll have to get permission from the council; even a cosmopolite com has rules about Europe for kids. Some coms don’t even let adults go there, but those are communities that don’t like to let cosmopolites in either. Sometimes I wonder how they survive.

Ok, that's my last tat: a licensed teacher. I like that one the best--they're using that new holographic ink for instructor tats now. That closes as many doors as it opens, of course. Teachers bring new ideas, we're meme-carriers, and cosmopolitan memes scare people. Even with all of the community protections, with walls around the homes and minds, identities are fragile. The Nation of Islam com lost almost half of its citizens last year in a struggle over identity--were they African, Muslim, American? The remaining NOI community, in South Cal, isn't letting any outsiders in, not even for biz.

So here we are. Tsutomo is the best tattist in the area. You scared? Don't be. The first tat is the hardest, but you're getting one to be proud of. Anyway, the party tonight will take your mind off the sting. You know, I think that boy with the Rainforest tat has his eye on you. Don't give me that look! Just remember that your community cares about you. We're all very proud of you.

That is when I woke up--in a cold sweat.

Careful Communities is a modern version of what happened in Western Europe in the first centuries after the collapse of the Roman Empire (c.500-800 AD). It was a return to smaller scale homogeneous communities, fragmented by the vast and dangerous European forests, that each had their own local currencies, administration and in-bred worldviews. Of necessity, they had become self-sustaining. One of the functions of the Church and monastic orders was equivalent to a "cosmopolitan community" in Careful Communities. Not everything was negative; for instance, it generated a remarkable upsurge in spirituality. Some even have considered it the high period of "Christian Mysticism," the period in the West where the sacred and the secular sustained each other and worked in harmony. But in most other regards, the assessment that it was a comparatively "Dark Age" remains valid.

The "Careful Communities" scenario is triggered by a sequence of breakdowns—such as a monetary crash, and a significant earthquake in California--each of which has been forecast by many specialists. They do not *have* to occur in order to attain this scenario, but their combination would be

quite devastating to most centralized governance systems. Some experts claim that, *alone*, a monetary meltdown would be sufficient to provoke a breakdown of our current society.

Assessing Possibilities of Breakdowns

The plausibility and consequences of some breakdowns will now be assessed separately, and the consequences of their combination evaluated.

A Monetary Meltdown?

The potential breakdown of a large-scale monetary crisis exists. The Mexican crash of 1994-95, the Asian crisis of 1997 and the Russian one in 1998 are certainly not going to be the last monetary crises of our times. The dwarfing of the world economy by currency speculation (see Primer) guarantees similar future episodes. However, the “Big Monetary Crash” would occur whenever the US\$ comes under attack. It is not a question of whether, but only a question of when, the instabilities of the official monetary system will assail that linchpin currency of the global money system.²¹⁵

Professor Robert Guttman of the Economics Department of Hofstra University describes the international monetary system as the Achilles’ heel of the US and the global community as a whole. It is the one way whereby a true Depression could repeat itself, with massive unemployment and socio-political consequences.

Every national currency in the world²¹⁶--even the new Euro--is defined in terms of the dollar, and therefore completely dependent on the stability of this linchpin currency. In the Primer, the context for a global meltdown--in technical parlance, “systemic risk”--is described. The probability of such a meltdown is growing year by year as the volume of speculative flows increases--at the rate of about 15 to 25% *per year*--while the safety net provided by the Central Banks becomes increasingly inconsequential relative to the ever-growing speculative volume.

²¹⁵ Variations on such a crash have been forecast by Joel Kurzman, or George Soros (see both references in Preface) or Judy Shelton Money Meltdown: Restoring Order to the Global Currency System (New York: The Free Press, 1994).

²¹⁶ With the curious exception of the Swiss Franc which is technically still fully backed by gold, Switzerland is the only country that officially does not belong to the IMF, but still has a seat in the so called “10+1” core group, regrouping the 10 key monetary countries--and Switzerland.

Many people worry about “*how* it could really happen?” This is the less important question. Did it really matter that the Kreditanstalt bank in Vienna provided the trigger for the London market panic that spread to become the 1929 crash in New York? What really matters--then as now--is the degree of stability or *instability of the system as a whole*. In comparison, identifying the precise card that will bring down the whole house of cards becomes anecdotal. Whether the falling card turns out to be a massive computer Millennium bug, or a financial meltdown in Japan, or the Eurodollar market, the final result that precipitates the unraveling of our dollar-based monetary system could be quite similar.

In Careful Communities, the financial trigger was an interplay between two of the weakest links in today’s global system: a failure of the *Japanese banking system* that provokes a panic in the *Eurodollar market*, and proceeds from there to challenge the US dollar market.

A California “Really Big One”

In comparison to the monetary breakdown, a significant earthquake in California may appear parochial. It is also one of the most studied risks around. According to the US Geological Survey study released in July 1990, there is a 67% chance that an earthquake of magnitude 7.1 or greater (Richter scale) will occur in the San Francisco Bay Area within 30 years. It may happen today, or 20 years from now.

Consequences of a Combination

This example of the “Really Big One” is used in “Careful Communities” not to gratuitously pile up disaster upon disaster, but to illustrate how--if either one of the previous breakdowns is serious enough--Central governments could become quite incapable of dealing with local breakdowns. People would have to reorganize their lives to be more local and self-sustaining, and very different forms of governance--like the ones reflected in this scenario--could become plausible.

The Forces Feeding “Careful Communities”

The Careful Communities scenario is driven by a collective reaction of retreating to safety. It makes a priority of the local security and community concerns that are already evident in today’s society.

When money breaks down, all outstanding financial agreements--such as salaries or rents--become meaningless. Life savings are wiped away in days, leaving people suddenly exposed to a future more uncertain than they ever thought possible. In these circumstances, collective fears and shadows can surge up powerfully.

In the US, for instance, the old “melting pot” model has given way over the past decades to ethnic identities. Many people now identify themselves as Afro-American, Mexican-American, Chinese-American, Italian-American, and so on. Furthermore, the top priority for many people across the political spectrum (86% according to a 1995 US survey by American LIVES) is “to rebuild community.” In the Careful Communities outcome, this priority gets out of hand after the traditional system collapses. The fears present in our current society cause fragmentation, leading to the creation of like-minded communities where the available technologies are mobilized to ensure a feeling of safety and control. To Americans, this outcome may appear less likely than the possibility of a Corporate Millennium. After all, the Careful Community conversation was overheard on Haight Street.²¹⁷

But in several parts of the world, even more extreme forms of what is described here have already happened. In Yugoslavia, what started as a monetary problem in the late 1980s swiftly became intolerance towards the “others,” whom some ethnic leaders used as scapegoats to redirect anger away from themselves, and to reassert their power in the process. Therefore, “Ethnic cleansing” is a direct consequence of the IMF readjustment program of the late 1980s, which provided the sociopolitical context for extreme nationalist leaders to take over. The 1998 monetary problem in Indonesia, within days, triggered mob violence, plundering, and rapes directed against Chinese minorities. Similarly, in Russia, discrimination against minorities has been exacerbated by the financial collapse. Practically nobody among the intelligentsia in any of these countries would have believed these events plausible even a few months before the mayhem started. Neither are such events unprecedented. For example, the Jewish minority became the scapegoat for the consequences of the monetary collapse of the 1920s in Germany. Monetary crashes invariably leave people in fear,

²¹⁷ For the readers who may not remember the 1960s, Haight and Ashbury Street are the central places where the “flower children revolution” officially started.

despair, and anger. This is an explosive social mix that irresponsible demagogues can exploit. The rise to prominence of Milosovic in Serbia after the Yugoslav money crisis of the 1980s demonstrates that the recipe is still operational.

In Careful Communities, control over local currencies can be used to lock people into a safety cocoon. Like everything else in this world, local currencies can be used either positively or negatively, and in this scenario their restrictive potential is revealed. Later, in Chapters 5 and 6, you will learn that when designed to *complement* the national currency, the impact of community currencies is strongly constructive. You will also learn why and how these currencies have spread to over a dozen countries around the world. The following graph illustrates the explosive growth of such complementary currencies over the past decade.

If the official global money system goes into a meltdown, such local systems could very well become--by default--the best safety net around. Under the shock, people are likely to scurry for psychological security at any price. Paradoxically, the very strength of the forces leading toward globalization is fueling a clearly discernible new emphasis toward local priorities and local cultural homogeneity. This can take place peacefully, but, as has been seen in recent years, this is not always the case. The growing trend toward smaller scale local ethnic priorities and cultural divisions has already unchained the dogs of violence and war in places as disparate as ex-Yugoslavia, Azerbaijan, and Rwanda.

Timetable of the Revolution

1980s: Development of the first LETS systems, the first postwar complementary currency systems mostly in Canada, Australia, New Zealand and Northern Europe (more details in Chapter 5)

1984: First published technical warning about the "Millennium Bug" (Y2K)

1990: Tax free approval of the local Time Dollar systems by the IRS in the US. (See Chapter 6)

1991: Beginning of the first ‘Ethnic Cleansing’ war in Yugoslavia

1992: Ithaca Hours introduced in Ithaca, New York

1995: Survey in the US showing that 83% of population puts ‘rebuilding community’ as top priority

1996: (May 14) First Hearing before Subcommittee on Technology at the US House of Representatives about “Solving the Year 2000 Software Problem”

1997: Decentralization of the welfare system, acceleration of devolution of power from the Federal Government to the States and municipalities in the US

1999: Preparations to meet the deadline of the “Millennium Bug” reach its paroxysm, and the precautions taken create some problems of their own (e.g., runs on medium sized banks that are late in Y2K compliance)

2000: Surge in religious apocalyptic movements; The “Millennium Bug” hits.

2010: First year where more commercial exchanges are occurring in complementary currencies than in the old battered national currencies

2020: The girl in the nightmare on Haight Street gets her initiation tattoo

Among the plausible futures, the two described so far are neither the worst nor the most favorable. We shall now have a brief look at two more extreme possibilities. They will be called “Hell on Earth” and “Sustainable Abundance.”

Hell on Earth

The seed bed for “Hell on Earth” is a similar combination of breakdowns as “Careful Communities.” The main difference in “Hell on Earth” is that instead of people organizing themselves in self-contained communities, a highly individualistic “free for all” ensues. It is the world that would result if enough people believed that the solution to any breakdown is to buy more bullets for their guns.

In contrast with the fictitious people described in the previous two scenarios, in “Hell on Earth”

everybody is real, actually existing in 1996. The lives of Red, Sean, Addison, Todd and Jeremy are described in the words of my friend Katherine who, at 15, was the youngest member of the audience on which I tested the ideas presented in this book during a series of conferences about the 'Future of Money.' What we learn from her is that 'Hell on Earth' is *already* happening. And it is less than half an hour's driving from the wealthiest counties and the fastest growing economy in the US. Hell on Earth is happening in the backyard of the world's only superpower and most advanced technological innovator. It is happening during one of the longest economic boom periods on record, during a year when the Dow Jones has broken its record high 43 times.

Katherine's Friends

[Border decor: a schoolgirl's journal]

RED

Red was abandoned, left on the streets of Berkeley, California, by his parents when he was three years old. A young homeless couple took Red under their wing. They spent most of their winters in shelter after shelter, because three days was the limit on how long anyone was allowed to stay. In the summers they would roam around Telegraph Ave, day in and day out, searching through dumpsters and garbage cans, looking for their next meal. No one ever talked to them. No one ever bothered to stop. One day Red woke up and they were gone. He was seven years old.

When Red was 10, he met another boy in the same predicament. This boy's name was Sean. He was 15 and had been homeless since he was five. Sean arranged his hair in two turquoise Mohawks that sliced out of his skull side-by-side. The hair dye matched his eyes and pale skin. He wore a black hooded sweatshirt with drawings and patches sloppily sewn on everywhere with white dental floss. He wore chains around his neck, as well as spiked chokers and bracelets. His nails were neatly painted black. He called himself a gutter punk, an anarchist, a squatter, a member of society that everyone wanted to ignore, and that for which no one wanted to take responsibility.

Red was captivated by Sean--someone who was like him, someone else who had been forgotten, erased. Sean became Red's mentor. He named him Silence Red--Silence because he was always quiet, and Red because it was his favorite color.

As Red got older, he became part of the society known as the gutter punks or squatters, the lost children who had lost their families and come together to form their own. They never fought among themselves and rarely caused any trouble. They raged against the society that had overlooked them. They hated all adults, especially parents. Most of them had either been abandoned by their parents or had run away from abusive homes. Members of the middle and upper classes spat on them, cursed at them, accused them of being drug addicts and alcoholics. They were hauled off to jail for sleeping outdoors at night, for sitting on sidewalks, even for leaning against walls. They were harassed by everyone, even though they were just fighting to stay alive.

Red and Sean squatted together as brothers for 15 years. They didn't use drugs and they didn't drink. They traveled from place to place, looking for the perfect home, but they always returned to Berkeley in the summertime.

Red was a man when he died, but he was only 25. He always said that he wanted to die by decapitation to get rid of the sickness in his head. Then he would always laugh. Before he died, he had told Sean that he had had this horrible pain in his head as long as he could remember and that it was getting unbearable. Sean took him to a friendly doctor. The doctor said that Red had a tumor in his brain and that it was too late, that without medical insurance or money, nothing could be done and that he would die within a few months. The doctor gave Sean a prescription for pain killers, drugs, but Red refused to take them. One day Sean went to a 7-11 to get a Slurpee. When he got back, he saw Red lying in the

grass. He had slit his own throat to get rid of the sickness in his head.

When most people saw Red, they were terrified. He was 6' 7" tall. He had 8-inch red liberty spikes in his hair. He had 27 piercings in his porcelain face alone. But if you looked in his eyes, you knew he never was, nor ever would be a monster. Red would never have hurt a fly. He wouldn't even hurt those who had hurt him. He was the nicest, sweetest person you could know. He would always make sure that everyone he knew had eaten before he would eat. The only problem was that no one would or could ever look in his eyes to see the sadness and the kindness, because he was invisible. Had someone seen him he might have lived just a little longer. But for most, ignorance is easier than compassion.

And when all the rich people went to sleep, Sean gathered some of the gutter punks to take Red's body to the dump and they burned him. His ashes are on your \$4000 lawn, and his body is making your flowers grow.

One of Red's favorite songs was by the Rancids, it goes:

*"Red and white stripes flyin'
White for skin and Red for dyin'
Why can't I walk on through
and not feel like I am in hell."*

ADDISON

I looked at Addison, and it was death staring back at me. He stood before me, not as the beloved boy that I knew, but as the dark angel whose image haunts me in my dreams, the angel of death. His molasses skin was yellowing; his black eyes looked as if they had been sanded, left with a dull finish. His paper-thin body shook compulsively as he stepped down from the green bus toward me. He was a torrent of anxiety and sadness. He looked at his old shoes as if he were observing someone else's feet. He couldn't feel his feet, but he knew they were there because he could see them.

His skin was peeling and his hands felt like splintered cardboard as I helped him off the final gray step of the bus. Then the bus was all of a sudden gone, and we were alone, and for the first time in my life I was scared. I was scared to look at him, and it hurt to hold his hands, which were dry and felt like shards of glass. His fingernails were falling off. He pulled a comb out of his pocket and combed what was left of his hair. The comb pulled out a big chunk of gray, thin kinky hair. He didn't even notice.

He used to be so beautiful. My God, now he looked 60 years old, and he was only 16. He looked into my eyes, and he saw my pity, which I could not hide from him. He whispered, "Don't worry, Katherine. It doesn't hurt." I knew he was lying. All expression in his face was lost. He didn't have the muscle control.

He smelled like a rotting egg, but he was really a rotting boy. His lips were blue and cracked. I kissed my friend softly. He tasted like metal on a 90-degree day. With every step he wheezed, soft little crackles. And I didn't want to touch him for fear that he might crumble and fall beneath my stroke. I helped him sit down on a bench. It was cold, gray concrete. He looked up at the sky and then at the trees around him. "There aren't any trees where I live," he whispered as he tried to hide a tear rolling over his face.

And then he passed out, snared into his dark, cold, black sleep, where reality was just a fragment of his imagination and death and suffering reigned. Blood trickled down from his parched lips. His lungs were bleeding, and he reddened the bench with the serum of his suffering. The blood dripped onto his blue sweatshirt, and then the flowing stopped.

And he laid on that bench for hours in his sleep, and I held him. The blood would flow, and then it would cease. Then it would start again. But, the suffering never stopped, and it was only then that I realized that my dark angel was dying. But, in reality, he was already dead.

* * * * *

Addison grew up in a black ghetto called Hunters Point in San Francisco. He was beaten up for being a good student and by seventh grade had virtually dropped out of school. He showed me his homework, all neatly completed, but which

he never had dared to turn in. He was forced to join a gang when he was 15, told that he would be hunted down and shot if he didn't. He began to use drugs and drink heavily, a way of numbing himself to his own pain. One of his closest friends, who was a crack baby and had been addicted to cocaine since birth, died of a massive heart attack when he was 16, trying to kick his habit. As the people around Addison began to die, he sank into a deep depression. He contracted seven different strains of HIV by the time he was 16 and developed full-blown AIDS just a few months later. He had an estimated two months to live when I sat with him that day. I met him at Pier 39 in San Francisco. I was the only white person he knew, and compared to him I was rich. We had been best friends for two years, and I tried to keep him alive as best I could. But the day before Addison's 17th birthday, he took a 9mm gun from beneath his bedding, and he shot himself in the head. He lay dead in his room. No one found his body for five days.

Addison was living in hell, and he couldn't handle it. But then again, who could? Out of the 15 people that Addison grew up with in Hunters Point, 12 died within six months of his death. Three died just months before. They were all dead within 14 months. They lived in an environment that was de-evolving because of isolation, drugs that were rumored to be supplied by the government, and because of an American people who chose to ignore the poverty, to close their eyes because they felt it wasn't their responsibility. For them, the ghettos didn't even exist.

*“Ding Dong! The castle bell!
Farewell, my mother!
Bury me in the old churchyard
Beside my eldest brother.
My coffin shall be black,
Six angels at my back,
Two to sing and two to pray
And two to carry my soul away.”*

-James Joyce

TODD and JEREMY

Todd and Jeremy ran away from home when Todd was five and Jer was nine. They took the train to San Francisco, where they slept in Golden Gate Park. They had lived in a trailer park in San Jose with their father who had sexually molested them and abused them for as long as they could remember. Their mother had died in a car accident just months after the birth of Todd. Their father was unemployed, but the television, where he spent most of his time, always seemed to work. The children cooked their own meals, consisting mostly of cereal and of Tater Tots, deep fried potato scraps.

Todd's given name was Christina, but Jer, her older brother, had always wanted a younger brother, so when they packed their few possessions, Jer renamed his sister Todd. She had a thick mane of blond, almost cream-colored hair that cascaded to just below her waist. She had a small body and high cheekbones that accented her aqua marine eyes. She spoke seldom, and when she did, she was so quiet that it almost hurt to listen to her. She used small fragile words and never looked you in the eye. Jer on the other hand, when speaking, used a barrage of cuss words while frantically flailing his arms about as a way of assuring that his point was understood. He would run his grimy hands through his fluorescent blue liberty spikes, wads of hair that he glued into seven, 6" points. He talked about his dreams of getting his lip pierced and blowing up the White House with a Swiss army knife, dental floss, and a match stick like the TV hero and escape artist, McGiver.

Todd and Jeremy would sit on Haight Street for hours--Todd quietly asking the people who passed by for a nickel or dime, Jer harassing people for blocks for not giving them even a penny, screaming, "FUCK YOU!" as mothers and daughters, fathers and sons, passed by them without even a glance. As night came they would retreat back into the park, the place where they felt the safest. For them, it was the beginning of the end of their lives.

*“Deprived of any hope.
Taught they couldn't cope.*

*Slaves right from the start.
 'Till death do them part.
 Poor little fuckers, what a sorry pair,
 Had their lives stolen, but they didn't really care.
 Poor little darlings, just your ordinary folks,
 Victims of the system and its cruel jokes."*

-CRASS

“Hell on Earth” describes a world where there is a lot of work to be done, but there is simply no money around to bring the people and the work together. When children have no chance to develop themselves, the result becomes a way of life that is guaranteed to perpetuate, possibly for generations. The linkage between this situation and our topic of money may appear obvious: joblessness, bankruptcy and/or financial failure have made the parents of these kids lose their homes in the first place. Once started, the currency scarcity snowball continues. Without an education there is no prayer in hell that these kids will get a job. There will not even be money for their burial. Mental illness is another way out. A Chicago study found that 32.2% of newly admitted mental patients had a history of homelessness prior to their first hospitalization.²¹⁸

It has proven remarkably difficult to find reliable statistics about homelessness, particularly homeless children in America. Mainstream media refer to it less and less, even as the reality of the problem grows. The number of mentions of homelessness in *Washington Post* headlines dropped from 149 in 1990, to 45 in 1995 and to 18 by 1998²¹⁹. As one apologetic data administrator put it: “People who have the money are not interested in finding out; those who are interested don’t have the money to find out. And researchers do the studies for which they can get paid.” She explained that the best data is generated indirectly, because each county keeps track of actual numbers of families and children who seek assistance and are eligible for a particular shelter program (the AFDC-HAP)²²⁰ during each fiscal year.

Figure 4.5 shows that the number of homeless children in the San Francisco Bay Area alone passed the 40,000 mark in 1995; 325% higher than it was eight years earlier. These numbers reflect by definition only ‘eligible recipients,’ so the actual numbers have to be higher.

²¹⁸ Homease: 10 Points (San Francisco, Spring 1989) pg 4

²¹⁹ The Progressive Review no 105.7 (AFL-CIO website)

²²⁰ AFDC-HAP stands for “Aid to Families with Dependent Children - Homeless Assistance Programs.”

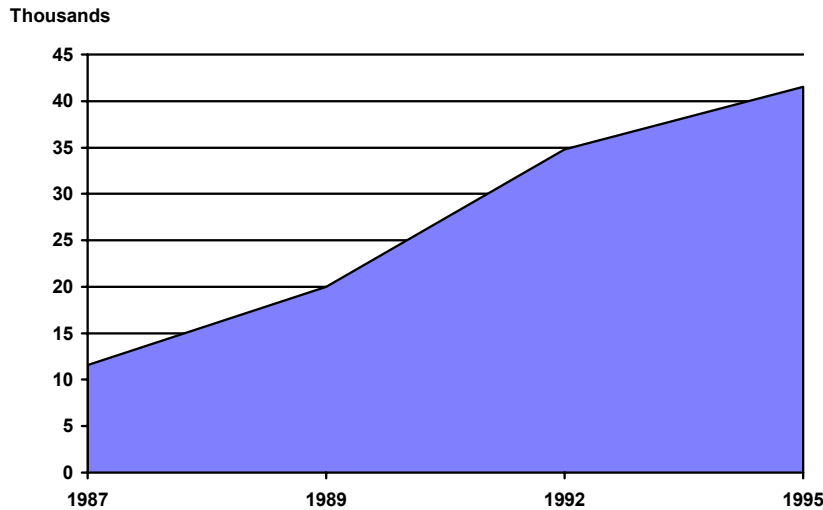


Figure 4.5 Thousands of Homeless Children in San Francisco Bay Area ²²¹

There may be many reasons why the parents of these children became homeless, but the simplest is straightforward arithmetic. The average household income in the California Bay Area increased by 34.3% between 1980 and 1990. The cost of living went up during that time by 64%, almost double that amount. The average rent for a two-bedroom unit increased by 110% over the same time period, while rent for a vacant studio increased by a whopping 288%.²²² This explains why 20% of the homeless families have at least one parent with a full-time job. In short, the fastest rising component of the homeless is the families of the ‘working poor’ of yesteryear.

San Francisco is in no way a strange anomaly. Because the US Department of Education funds a project tracking schooling problems experienced by homeless children, it has prepared a Report for the US Congress identifying the different ages of homeless children. Here again, only eligible recipients are counted, which means these children still have to be ‘in the system’ enough to actually try to go to school. For instance, it is unlikely that any of Katherine’s friends would be picked up by these statistics. Here too the graph illustrates really a *minimum* level of the problem at hand. The most striking aspect of these statistics is the dramatic increase of homeless children in the lowest age brackets (less than six years old).

²²¹ Center for Common Concern: A Homebase Report (San Francisco, annual reports 1989, 1993, 1994, 1996)

²²² City and Council of San Francisco: Comprehensive Housing Affordability Strategies for Siting Housing and Services for Homeless People: Annual Plan for 1994, (November 5, 1993).

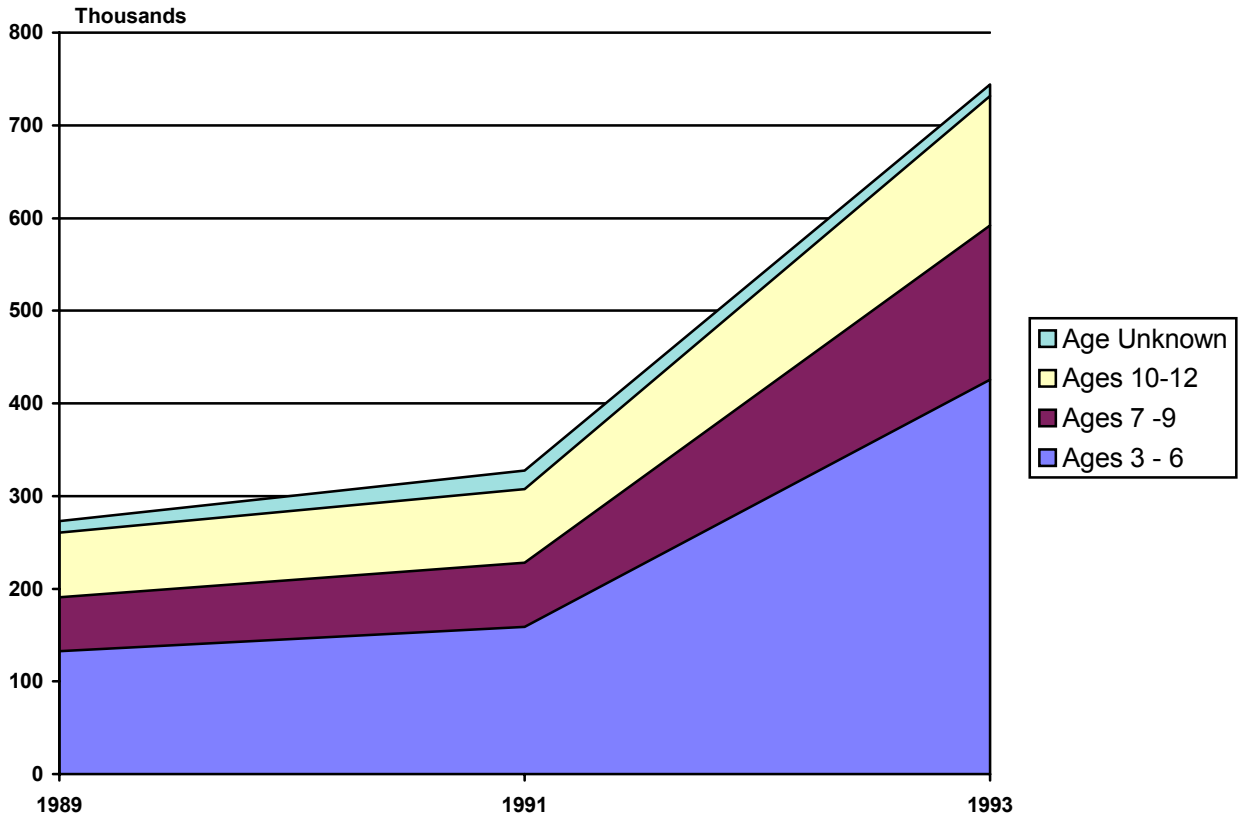


Figure 4.6: Thousands of homeless children in the US, by age group (US Department of Education, July 1995)²²³

‘Trickle down theory’ or ‘hoping for better economic times’ is clearly not addressing the problem. In parallel, the number of families getting federal housing help dropped from 400,000 in the 1970s to 40,000 in the Reagan years (mid 1980s) to zero after the National Housing Act passed in September 1996.

Forecasts, available only for certain cities, are even worse. New York City, for instance, expects the number of homeless families identified at shelters to multiply by a factor of five between now and the year 2005, as a direct consequence of the dismantling of the Federal social security network.

²²³ Data from “Report to Congress: Education for Homeless Children and Youth Program (Stewart B. McKinney Homeless Assistance Act Title VII, Subtitle B) July 1995 This data captures only children who are reported as they have special difficulties enrolling in school because they are homeless.

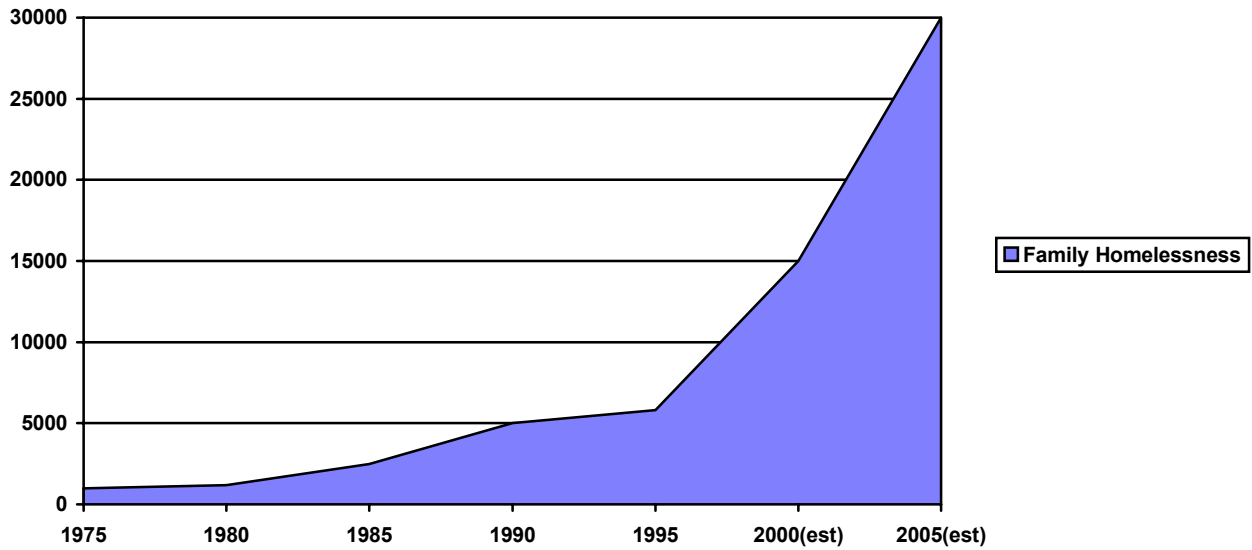


Figure 4.7 Number of Homeless families in New York (1975-2005)²²⁴

Having a full-time job at minimum wage does not provide someone a home anywhere in America. In 1996, the US Conference of Mayors found that nationwide 19% of the homeless population were employed.²²⁵ Declining wages have put housing out of reach of many workers: in no state can a full-time minimum wage earner afford the costs of a one-bedroom unit at fair market rent.²²⁶ In 45 states and the District of Columbia, families would need to earn at least double the minimum wage in order to afford a two-bedroom apartment at fair market prices.²²⁷ The fastest growing segment of the homeless population is families with children, now about 40% of the people who become homeless. Requests for emergency shelter by families with children in 29 US cities are increasing at a rate of 7% per year. The same study found that 24% of the requests for shelter by homeless families were being denied due to lack of resources. The net result: children currently account for 27% of the total homeless population, and their average age has been steadily dropping.²²⁸ While in 1987, the average

²²⁴ Homes for the Homeless, Inc. “A Tale of Two Nations: The Creation of American ‘Poverty Nomads’ January 1996

²²⁵ Waxman and Hinderliter: A Status Report on Hunger and Homelessness in America’s Cities: 1996 (US Conference of Mayors, 1520 Eye St. NW, Suite 400, Washington DC 20006-4005)

²²⁶ “Affordable Housing” is defined technically as absorbing up to 30% of pre-tax earnings. “Fair market price” is the cost of non-subsidized housing in the area.

²²⁷ Kaufman, Tracy: Housing America’s Future: Children at Risk (Washington DC Low Income Housing Coalition, 1996)

²²⁸ Waxman and Hinderliter, Ibidem (1996).

age of a homeless child in New York was nine years old; as of 1992, it was down to four years old.²²⁹ This average age has been dropping, even with the appearance of another type of homeless New Yorker: the homeless college student. In 1986, the chancellor of CUNY (City University of New York) estimated that about 3,000 of the students enrolled in his programs were homeless.²³⁰ One of these students was perplexed to discover the United Nations Charter of Universal Human Rights which the US has officially signed and keeps referring to in international political debates. However, Congress has not yet approved that Treaty because it includes as fundamental the “right for adequate shelter and education.”

All this occurred *before* 1996, when the responsibility of the US welfare system was transferred to the states and municipalities. On the second anniversary of this welfare reform, the media and politicians from both parties announced it a success due to large declines in the welfare rolls, and an increase of recipients finding employment. But an independent study released in December 1998²³¹ revealed that the number of children living in extreme poverty (below one-half of the poverty line of \$6,401 per year for a family of three) grew by 400,000 between 1995 and 1997. Many families are being “bumped off” the welfare lists through little or no fault of their own. For example, a state funded study of Utah families who were denied assistance because of failing to participate in required activities found that 23% failed to participate because of lack of transportation, 43% due to a health condition, 18% due to lack of child care, and 20% due to mental health issues.

This is happening while the US economy is in its longest boom in history...

Finally, for those who believe that all this could not possibly be relevant for them under any circumstances, there are some sobering reality checks, in terms of the historically unprecedented growth in financial risks for the US middle class. Most middle class savings have been moved from the relatively risk-free bonds to mutual funds and stocks (stockholders have increased in numbers from 12 million to 45 million in the past 10 years). This move is the fundamental force that has created the biggest bull stock market in history. However, this also means that these savings are now

²²⁹ Homes for the Homeless, Inc.: The New Poverty: A generation of Homeless Families (New York, 1992).

²³⁰ Homebase: A regional Support Center for Homelessness Policy and Programs 10 Points (Spring 1989) pg 3

²³¹ Children’s Defense Fund (CDF) and the National Coalition for the Homeless: Welfare to What? Early Findings on Family Hardship and Well-Being. (http://childrendefense.org/fairstart_welfare2what.html) December 1998.

invested under a significantly higher risk level than ever before.

A dollar meltdown--with its direct impact on the stock market--would hit the broad American public exactly when and where it would hurt the most, just after the last shreds of the safety net concocted under the New Deal have been dismantled. If the result is “Hell on Earth,” the effects of what is occasionally referred to as ‘inevitable Social Darwinism’ would spread from a minority today to a larger part of the population by 2020.

Sustainable Abundance

My strongest motivation for researching and writing this book has been my increasing belief that it is possible for us to create a Golden Age of Sustainable Abundance within our lifetimes. This letter to my best friend from high-school days, presently a Benedictine monk living at Lake Titicaca in Southern Peru, explains why.

[Border decor: a private letter]

Bernard Lietaer
62 Oakdale
Mill Valley CA 94941

My dear friend Pierre,

I am in the process of writing my next book about a topic that you--in your monk’s retreat near your lake at the edge of the world--will probably consider of little relevance. Nevertheless, of all the people I know, you are one of the very few who live in the ultimate luxury--to be able to dedicate your full time and energy to following your bliss, your calling, to being who you want to be, without any concern over money. It is ironic that only monks, who don’t own anything, or possibly the *very* rich, or the extraordinarily gifted, can afford your equanimity about money. The rest of us, the vast majority of humans, even in the richest countries in the world, have succumbed to the obligation--or you might say the temptation? -- of “making a living” that does not really coincide with what we really would like to be doing or being.

How much have we had to give up of our being, of who we really want to be, in this process of making a living? Many have not even dared to find out what they really would like to do, out of the fear that it would be too painful to go back to the “normal” job after that. The game we

play is that--later, when we retire, when we have put enough money aside--then we will take care of our dreams. Some take it in little installments. We rush through our week, looking forward to the weekend or a vacation, when we will do what we really want to do.

You know that I have not always been optimistic about the future of humankind. You know that I was “realistic” enough to choose not to have any children if they have to live in periodic fear of atomic annihilation, as was the case during the Cold War. So what I have dreamt about may come as a surprise to you. I have seen the possibility of a Golden Age of Sustainable Abundance, where the money we use will enable us to be ourselves. I have dared to dream that each child born into this world will have as a main concern the discovery what his or her calling really is, and have the opportunity to become a master in that endeavor. What if the main reason geniuses are so rare is that we kill the genius even before anybody knows in what field she is a genius? And how many of those who find out what they really want to be have the opportunity or the resources to learn how to realize their full potential? Maybe the human race will need all the geniuses it can produce to get out of the collective corner into which we have painted ourselves.

What if the scarcity is not mostly “out there” in nature, as we all have believed for centuries? What if the money system we have been using, by which we have been collectively hypnotized, was continuously creating that very scarcity that we most fear? Is there a limit to the amount of learning we can do, to the amount of passion, creativity or beauty we can generate and enjoy? What if every garden could be cared for with the love and attention to minutia that have created traditional Japanese tea gardens? What if every child could be encouraged by the best mentors in her field of bliss? What if every street in our cities could become a work of beauty? What if the limitations arise when we change “work” into “jobs,” i.e. when we need to exchange our work for an artificially scarce currency? Why could we not design a money system that works *for us*, rather than having us work *for it*? Walter Wriston, ex-Chairman of Citibank, defined money as information. Why should information be scarce, particularly at a time when the technologies of the Information Age are spreading like wildfire all over the world?

Yes, I'll concede to you that it is not quite *that* simple. Before you conclude that I have gone completely crazy, I ask you to hear me out, to accompany me in exploring some new possibilities. I hope you will find them as surprising and as much fun as I do.

Your friend,
Bernard

For starters, a definition of the term Sustainable Abundance may be useful.

Of all the definitions of **Sustainability**, the one I prefer is the instruction of my scoutmaster whenever we would arrive at a new campsite: "leave the place in better shape than you found it." A more formal definition is the one used by the Gro Brundlandt Report for the United Nations (1987): Sustainability is characteristic of a society that "satisfies its needs without diminishing the prospects of future generations." Such a society, I believe, should also respect the needs and diversity of other life forms in the process.

Abundance does not refer to a mechanical accumulation of more "stuff", or a Porsche in every garage. Abundance is what provides enough freedom of choice in the material domain to as many people as possible, so that they can express their passion and creativity. Such creativity is the expression of their highest form of consciousness, their highest calling, and provides a true sense of *meaning* in their life. Someone who is starving, and whose child is dying from hunger, will simply not have the opportunity to express creativity in a positive way.

In the balance of this book, you will discover the evidence upon which the scenario for Sustainable Abundance is grounded, and why it is not a Pollyanna dream. You will learn about the pragmatically tested mechanisms, at monetary and other levels, that make 'Sustainable Abundance' available to us as realistically, and with the same probabilities, as the previous scenarios.

One simple way to express the core thesis of Sustainable Abundance is that *it is now possible to*

make capitalism truly sustainable through initiatives in the money system, sustainable not only ecologically but socio-politically as well. In short, capitalism with a human face does not have to remain an oxymoron.

An important common key to developing sustainable capitalism is ***the implementation of money systems that support such objectives***. We will see how at least three of the most critical problems of today's societies can be addressed effectively by using new kinds of currencies that could operate as a complement to the existing national money, and that are *already* operating in such a way in small scale, prototype form in a dozen countries around the world..

You will visit real life cases in over a dozen countries where people are successfully implementing several kinds of new complementary currency systems that tackle the two first key issues referred to:

- Reducing unemployment in the Information Age (as explained in Chapter 5)
- Healing and rebuilding community (Chapter 6).

The third key issue may be even more critical in the long run: a new global currency-- operating in partnership with the national ones--could resolve the conflict between *short term* financial interests and the needs for *long term* ecological sustainability (Chapter 8). This same currency would also be inflation proof and automatically convertible, without the need for a new international treaty. Last but not least, it would provide a resilient safety net below the existing monetary system. Today there are no applications of this last kind of currency. However, I found two important historical precedents where the key features of this kind of currency were tested extensively. They have even passed the test over several centuries, proving my points about sustainability and resilience.

Finally, you will see why all the pieces of the puzzle--the technologies, the value systems, even the timing--are converging to give Sustainable Abundance a chance (Chapter 10). The window of opportunity has already opened. Can we take advantage of the coming changes? Instead of passively accepting whatever money system is on hand, you will see that it is possible to make a conscious choice.

The Four Scenarios in Perspective

The difference in the length and detail of our different futures does not reflect their relative importance or likelihood. What these differences do reflect is the complexity of ideas that can be presented now, without the background that will be covered in the coming chapters. All four scenarios have just about the same chance of occurring. And they are not the only possible outcomes. In fact, the most probable outcome is likely to be some mixture of several or all of these stories. Outcomes will also play out differently in different parts of the world. Remember these scenarios were designed to focus your attention on the driving forces that could lead to any of the four outcomes, as well as to surface the variety of choices that are available, and to illustrate the implications of those choices. The next step is to look more closely at these **key driving forces** that are running their course beneath each scenario.

The Two Driving Forces

The following diagram (see Figure 4.8) is an overview of the scenarios that highlights their relationship to one another.

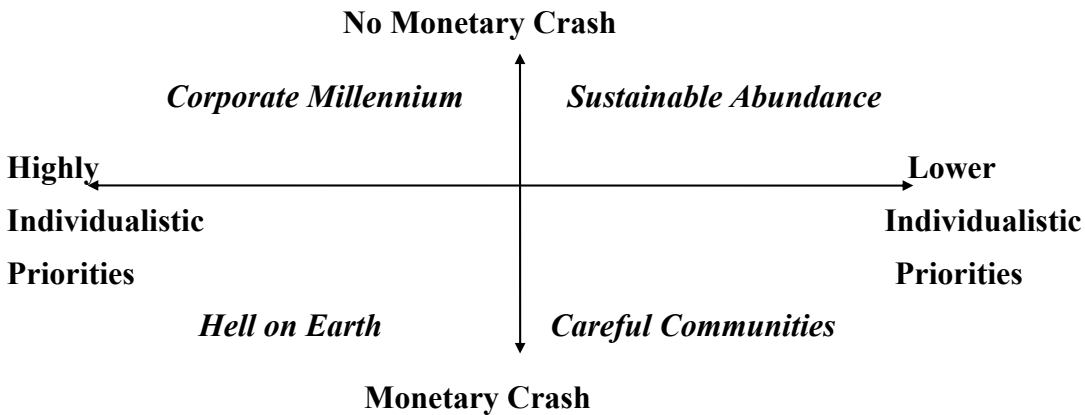


Figure 4.8 First Approximation of Relationships between the Four Scenarios

What the two lower scenarios (“Hell on Earth” and “Careful Communities”) have in common is one specific event: a global monetary crash. The two top scenarios (Corporate Millennium and

Sustainable Abundance) do not include such an event. Similarly, the two scenarios on the left give top priority to individualistic and competitive tendencies; the two on the right do not.

Focusing upon these driving forces, however, only allows us a relatively superficial view of the dynamics involved. The real agents of change are people. Figure 4.9 suggests what *we can do*, individually and collectively, to improve the chances of Sustainable Abundance.

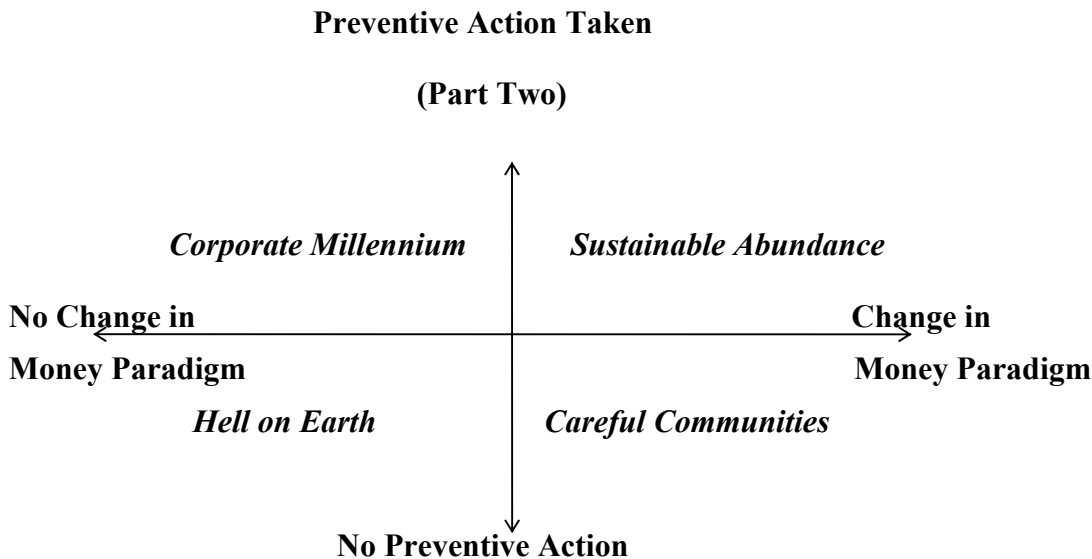


Figure 4.9 Relationships between the Four Scenarios

The monetary crash of the vertical axis in Figure 4.8 is not a random natural catastrophe—like a thunderstorm—that we may or may not be lucky enough to avoid. The reason no crash is occurring in the two top scenarios is because **preventive actions** have been **consciously** taken. The nature of these preventive actions is the recurrent theme of the four chapters that constitute **Part Two: Money Choices.**

Similarly, the left-right divide of the grid, (i.e., whether highly individualistic priorities prevail in a society or not) should not be considered as a mechanical collective switch that just happens to be turned on or off. Instead, as discussed in Chapter 1, the key will be whether we are willing or not to revisit the money paradigm. The cartoon on the next page depicts in another way the costs of remaining locked in the prevailing interpretation of money. It is only if we choose to become aware that we can walk out of the money box, to the sides where no bars are blocking us, the Sustainable

Abundance will become available.

One last question: Where is the “Official Future Scenario” on this Map?

Looking down at the page, imagine that you are suspended above the crossing of the two axes of Figure 4.9. That point in space is where the Official Future is temporarily suspended. Imagine yourself with an open parachute on your back, moving slowly down toward the page, expecting to maneuver a safe landing. One thing is for certain: gravity will pull you down to a landing, somewhere. The Official Future has no probability of keeping us suspended indefinitely. Let us hope that we have the time, and the patience, to learn how to use the ropes of our parachute to make a landing in the future of our choice.

While all four scenarios are equally plausible, I believe that the most preferable is Sustainable Abundance. The balance of this text is like a guide to using the ropes of our money system to make a smooth landing in that upper right corner, in a future where Sustainable Abundance is the norm, as well as the ongoing goal. There is still much to learn about the many strands and facets of these ropes, learning that we all will be doing together. Whatever happens, the ride over the next couple of decades promises to be an extraordinary one. Susan Watkins has said it well:

*“I think that wherever our journey takes us,
there are Gods waiting there, with divine patience
and laughter”²³²*

In **Part Two: Choosing Your Future of Money**, we will explore pragmatic options that are currently available for changing the money paradigm. Each of these systems can operate in parallel, with, and complementary to the prevailing national currencies. The shift in paradigm is not about abandoning the previous system, but complementing it with new money systems that support different sets of values. Together with the conventional system, these currency innovations can materialize Sustainable Abundance.

Gross Cartoon
“Remaining stuck within the
conventional interpretation of
money

²³² Quotable Women (London: Running Press, 1991).

ⁱ Goldman Sachs Investment Research: *The Race to Build the Broadband Kingdom*” (August 12, 1999)