The Future of Money:

How New Currencies Create Wealth, Work and a Wiser World

(Book #2 - US Version)

June 1999

- The Information Age has already spawned new kinds of currencies: frequent flyer miles are evolving toward a “corporate scrip” (a private currency issued by a corporation) for the traveling elite; a giant corporation you never heard of is issuing its own “Netmarket Cash” for Internet commerce; even Alan Greenspan, Chairman of the Federal Reserve, foresees “new private currency markets in the 21st century.”
- 2,600 local communities in the world, including over a hundred in the US, are now issuing their own currency, independently from the national money system. Some communities, like in Ithaca, New York, issue paper currency; others in Canada, Australia, the UK or France issue complementary electronic money.

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[New Numbering]

PART TWO: Choosing Your Future of Money

"Sure, money's all wrong,
and the devil decreed it;
It doesn't belong
to the people who need it."
Piet Hein, Danish physicist

"Money is a mode of organizing our life in the material world;
money is an invention, a mental device, very necessary, very ingenious,
but, in the end, a product of the mind."
Jacob Needleman[1]

"Money to be money […] does not have to be legal tender. It can be what one might call 'common tender', i.e. commonly accepted in payment of debt without coercion through legal means."[2]
Richard Timberlake

In Part One we became mindful of the old money story; in Part Two we will explore some new ones. We saw that the conventional national money system enforces a competitive ethos in all aspects of economic life. In contrast, other money systems have now been implemented which have proven compatible with *cooperative* values. They enable us to attain socially desirable aims with less regulation, taxation and bureaucracy than has ever been thinkable. However, to seize that opportunity we need to become aware of the implications of different money systems, and of the pragmatic options available.

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[1] Needleman, Jacob Money and the Meaning of Life (New York: Doubleday Currency, 1991) pg, 177
[2] Timberlake, Richard H. "Private Production of Scrip-Money in the Isolated Community" Journal of Money, Credit, and Banking Vol 19 # 4 (November 1987) pg 437-447.

In Chapter 1, I illustrated through the Time Compacting Machine how the transition from the Industrial Age to the Information Age will be one of rapid change entailing a whole range of adjustment problems for everybody in society. The core idea of Part Two is simple: *the possibilities offered by money innovations to tackle some of the key problems in this transition are extensive, and have remained so far mostly untapped*.

This does not mean that we should expect the national currencies to disappear, replaced with another kind of money. Instead, what is *already* happening is that other parallel currency systems are developing to complement the existing system, to fulfill roles that the national currencies do not, cannot, were never designed to play.

A Note for Economists

This book was written for the general public, not for economists. However, as the solutions presented here affect economic processes, input by economists are relevant, and a few of the sidebars will be dedicated to providing answers to potential objections.

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Neo-classical economics defines three different types of quantities of money:
M1 = Money issued by Central Banks, also called "High Powered Money" (see Primer for more details)
M2 = M1 + checking accounts and short-term deposits (up to 1 year)
M3 = M2 + savings accounts and longer-term deposits (up to 4 years)
Let us now define M4 as M3 + Complementary Currencies whose emergence is described in this book. These complementary currencies involved in M4 include two types of non-conventional currencies:
- commercial complementary currencies, such as barter-currencies used by barter companies, frequent flyer miles, frequent purchasing bonuses, and other types of loyalty currencies;
- socially motivated complementary currencies including all those described in the next chapters (LETS, Time Dollars, etc.)

The non-conventional currencies whose quantity is captured by M4 have now become increasingly important in the economic system. They clearly facilitate transactions that otherwise would not occur. The commercial complementary currencies involve both substantial volumes and significant corporations all over the world; while the socially inspired systems, although less important from a volume viewpoint, are significant in terms of resolving problems such unemployment, community creation and other functions.

M1, M2 and M3 measure quantities of money originating from different *sources*, but deal all with the same currency. In contrast, M4 deals with different *types* of currencies, including currencies whose unit of account is different than the national currency (e.g. Miles, or Hours). The emergence of M4 poses therefore many questions that have yet to be formally evaluated such as their impact on the economy, on unemployment, or on inflation. While this books deals with some of the issues qualitatively, a formal quantitative expression still needs to be formulated. Topics for some interesting thesis work?

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One objection to complementary currencies is that their introduction may be *economically less efficient* than a single national currency.

This objection is valid from a purely theoretical economic viewpoint. However, in practice, some 80% of complementary currencies use the national currency as a reference (e.g. "Green Pounds" in the UK, "green dollars" in Australia, etc.). In those cases, the efficiency of the price formation process in not affected at all. Most of the other ones tend to use the hour as a unit, which particularly in the services domain doesn't create a problem either.

However, conceptually the possibility nevertheless exists that new units would be introduced in the exchanges (eg. Miles for the airline industry). In those cases, price efficiency could indeed be affected. However, it should be noted that the economy is only a subpart of society, and human society a small part of the global ecosystem. *Not* the other way around. In any system, the implications of the optimization of a subpart should take into account its impact on the larger system. If your stomach were to optimize its throughput regardless of the impact on the rest of your body, it may kill you. Not a good outcome for yourself or - for that matter - your stomach in the long run.

It is unquestionable that social, political or ecological breakdowns have dramatic economic implications. In the inverse direction, I will show that specific money systems induce symptoms like community breakdown and financial short-sightedness. That is why a whole systems approach will be used here to integrate such social and ecological "side-effects" of money systems. In short, transdisciplinary trade-offs between pure economic optimality and other priorities need to be considered. There are ample historical precedents for this approach, including in the monetary field. For instance, on the basis of economic efficiency alone, one could argue that we should have been using all along only one single global currency, instead of the 170 different national currencies currently in operation. However, we have been using all these different national currencies because the priority of creating a privileged geographical area for exchanges that build national consciousness was deemed more important than the pure economic efficiency of a single global currency.

The monetary innovations described in Part Two illustrate a similar give and take. They therefore should be evaluated as early prototypes of social tools that facilitate a trade-off between their broader benefits and pure economic efficiency.

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A traditional economic hypothesis which this book challenges is that "money is value neutral", i.e. that money is simply a passive medium of exchange which does not affect the transaction or the relationships among the users of a currency. Under such an assumption, a currency simply facilitates an exchange, but does not otherwise modify the transaction. In contrast, the claim here is that the characteristics of a currency (such as how it is issued, its perceived scarcity, and whether it bears interest or not) does affect the nature of the exchange and ultimately the nature of the relationship between the people which use it. My arguments in favor of this view do not come from economic theory, but from two other sources of evidence: empirical observation and psychological theory.

Empirically, users of some types of the complementary currencies claim that they experience such a difference, they even claim that they go through the trouble of dealing with two currencies specifically for that reason. A short sampling of such testimonials is provided in chapters 5 and 6.

The psychological theory argument is one that all marketing specialist will amply support: humans are not primarily rational beings, but rather more complex emotional beings. The traditional hypothesis of a totally rational *"economic man"* dates back to Adam Smith, a century before the discovery of the unconscious by Freud and Jung. I propose that this simplistic model should be completed with a more comprehensive map of human emotional motivations. The empirical evidence that this is justified includes the "irrational" boom and bust financial manias which have been periodically plaguing our Modern economic systems for more than two centuries, as well as historical evidence on how different monetary systems have been shaping other societies. However, presenting such evidence on the emotional dimension of money requires more space than can be allocated here, and is therefore fully presented elsewhere.[3]

[3] An entire book is dedicated to that specific issue: Mysterium Geld: Emotional Bedeutung und Wirkungsweise eines Tabus (Munich: Riemann Verlag, March 2000).

Why not a Radical Money Reform?

Given the problems of the conventional currency system, why not simply replace it? Why propose only "complementary currencies" which are designed to function in parallel with conventional money, leaving intact the prevailing bank-debt system?

The short answer is that in every generation of economists, there have been unsuccessful proposals for replacing the official money system with "better" ones. The lock-in between the political, legal, banking and institutionalized monetary system has proven invariably too tight to break, even when the proposals came from the most influential economist of his time (such as Keynes' proposal for his *bancor*) or when they were supported by substantial popular movements (such as Gesells' *Freiwirtschaft* ('Free Economy") movement between the two wars).

Just a reminder: the objective here is not to design a theoretically perfect system, but more modestly to identify potentially useful monetary tools that have a fighting chance to be implemented.

Chapter by Chapter Outline

Throughout Part Two we will play a game: let us define an objective and design a new currency that will promote it.

For instance, if we want to reduce joblessness without inflation we will see that well over a thousand communities -- particularly in Australia, New Zealand, Canada, Brazil, and Northern Europe -- have already started using their own complementary currency with significant results (chapters 5: Work-Enabling Currencies).

Similarly, a growing number of grass-root initiatives are tackling the sense of loss of community occurring worldwide by introducing cooperation-inducing community currencies. (Chapter 6: Community Currencies).

Various practical issues involved in setting up such currency systems are analyzed, such as their legality, their tax implications, and their impact on inflation from a Central Bank regulatory perspective. (Chapter 7)

If we want to reconcile the conflict between ecological sustainability and economic growth, a new kind of global currency could muster the massive resources of the multinational corporations to get us there. (Chapter 8: A Global Reference Currency - Making Money Sustainable)

This multiplication of different currencies for different purposes does not have to create chaos. In fact, all the pieces of the new money puzzle can fit nicely together if we just look at the broader context (Chapter 9: A Broader View).

The whole even constitutes a coherent skeleton around which Sustainable Abundance can be built. (Chapter 10: Sustainable Abundance).

Chapter 5: Work-Enabling Currencies

"Change occurs when there is a confluence of both changing values and economic necessity, not before."
John Naisbitt[4]

"The lack of money is the source of all evil"
Bernard Shaw

"Life and livelihood ought not to be separated but to flow from the same source, which is spirit. Spirit means life, and both life and livelihood are about living in depth, living with a meaning, purpose, joy, and a sense of contributing to the greater community."
Matthew Fox

"People who say it cannot be done Should not interrupt those who are doing it"
Jack Canfield and Mark Victor Hansen[5]

The Time Compacting Machine "money question" being addressed here is "*how can we provide work to billions in an era of jobless growth*?" (Chapter 1)
This topic will be tackled by exploring the following five core ideas:

- The nature of unemployment has changed over the past decades, and this process will accelerate as the Information Age takes further hold.
- The traditional ways to handle unemployment are increasingly going to fail.
- 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 not the first time that such solutions have been successfully

[4] Naisbitt, John. Megatrends (New York: Warner Books, 1982) pg. 183

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. .

An Important Distinction

There is definitely enough work for everybody on the planet, but there are clearly not enough jobs.

A **"job"** is what people do primarily to obtain money, "simply to make a living." "Employment" will be used as a synonym jobs in this context. "**Work"** in contrast is performed primarily for its own sake, for the pleasure derived from the giving, or the passion expressed in the activity itself (see sidebar)..

> ***Jobs vs. Work***
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> - The word "**Job"** is recent; it dates only from the Industrial Revolution. It was initially defined as a "pile of things to be done," or even more precisely "something done for hire, with a view for monetary profit."[6]
> - **"Work,"** in contrast, is a very old word. Its first appearance in English dates from the Aelfric Homilies (11th century): : "That work was begun under God's will."[7] It still has that connotation when referring to a "work of Love," a "work of Art," a "work of Mercy." In English the word "work" and "worship" have the same root. Some languages, such as Hebrew, still use the same word for work and worship today.

Many signs point to the idea that a "job" for everybody, which became prevalent only during the Industrial Age, may be dying with that Age.

A lucky minority has jobs which are also their work. Successful artists always combined the two. Similarly, the real geniuses in any field - whether it is in business or healing, the military, education, academics or politics - always "followed their bliss," as Joseph Campbell put it so eloquently. However, these cases are still the exception rather than the rule.

Would you continue doing what you are doing if you had all the money you will ever need? If the answer is yes, you are among the fortunate ones whose work and job coincide. How many people do you know who would continue their job, if they didn't need the money?

Anything that may help people enjoy what they are doing should be welcome. As a Chinese proverb goes:

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[5] Chicken Soup for the Soul (Deerfield Beach, Florida: Health Communications, Inc. 1993) pg 149
[6] First and second meaning of the word "JOB" in the Oxford English Dictionary.
[7] The original text is " That weore waes begunnen onzean Godes willan" Aelfric Homilies (11th century)

If a person has joy in what he does
There will be harmony in the work
If there is harmony in the work
There will be order in the nation
If there is order in the nation
There will be peace in the world.

The Connection to Public Health

The evidence is that jobs without meaning can make you sick and even kill you. The prestigious Canadian Institute for Advanced Research reached the startling conclusion that "medical services have little if any effect on national health levels." Instead, what most influences health is a work situation where people are in control of their lives. The difference in life expectancy between rich and poor is explained primarily by the amount of control they have over their lives.. "Something is killing the great lower classes of the modern world, grinding them down before their time. The statistics show it's also killing the middle classes, who live longer than the poor but not as long as the rich."[8]

The Money Connection

The problem with work is finding someone who will pay you dollars for it, i.e. make it a paid job as well. The scarcity in jobs is, therefore, a money scarcity, as economists have known since Keynes. But does money have to remain scarce? Why not create your own money in sufficiency to complement the scarce national currency, and thereby enable more work to be paid? Sounds crazy? Too simple?

It is nevertheless what many communities in various parts of the world have already done. I will show later that the results of such money innovations prove that this process is effective in practice, why it does not create inflation, and which prototypes are the best candidates for generalization.

But at this point, let us first establish the nature of the job problem, and how it has changed over the past decade - irrevocably.

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[8] Premier's Council on Health Strategy: Nurturing Health: A Framework on the Determinants of Health (Toronto, 1991) pg 7.

Unemployed? Who? Me?

Today's Job Problem

Conventional wisdom states that unemployment is mostly a blue-collar problem, and only a temporary one at that. But these assumption are now hopelessly out of date, even in activities which have long been considered immune to technological obsolescence or corporate layoffs (see sidebar):[10]

> ***Information Age Unemployment in the Making***
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> - A robot is being tested to perform hip replacement surgery.
> - The first novel written in its entirety by a computer program - a torrid romance rated no better or worse than the average - was published in New York in 1993.
> - The latest performance by the Washington Opera Company of *Don Carlos* had only the conductor, two pianists and a synthesizer in the pit.
> - In 1993, Sears eliminated 50,000 jobs from its merchandising division, reducing its work-force by 14%. That same year sales went up a nice 10%. This was before the emerging trend toward electronic home shopping even started.
> - The electronic home shopping cyber-malls are expected to take over 20% of the two trillion-dollar-a-year retail market by 2007 (the largest of the service sectors, where all the new jobs are supposed to come from).
> - The frontal attack against government bureaucracies closes off another area in which jobs were created in the past.
> - For instance, the future of diplomatic services for the the British Government may include replacing some ambassadorial functions with "virtual posts" run by computer.[9]

As far as the "temporary" nature of unemployment is concerned, it is often implicitly assumed that - as in previous business cycles - the economy will pick up and the demand for labor will follow. Theory predicts that "frictional" unemployment is indeed to be expected. It is part of the market allocation system that some people will be in-between jobs, even in a booming economy.

However, millions of people around the world are starting to wonder.

How can one explain that the "frictional" unemployment level is slowly creeping up decade after decade? This is even more alarming if one takes into account that people's ability to move around and the efficiency of our information systems to match jobs with people has *increased* over the same time period.

For instance, the US average unemployment

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[9] Richard Beeston "Computers could act as diplomats, says report" The Times (Wednesday May 17, 2000 pg 18) commenting on the report by the Foreign Policy Center entitled Going Public: Diplomacy for the Information Society.

[10] One of the better surveys of this problem is from Rifkin, Jeremy The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era (New York: Putnam, 1995). Several of the subsequent examples are extracted from this work.

for the decade of the 1950s stood at 4.5%

in the 1960s it crept up to 4.8%

in the 1970s it reached 6.2%

in the 1980s it stepped further to 7.3%.

For the 1990s, the official statistics of American unemployment appear to be reversing this trend. They show a return to the level of the 1950s. However, the "dirty secret" of this exception is a substantial deterioration of American working conditions and pay, reflecting the scramble for jobs worldwide. US wages peaked in 1973 and have been declining ever since, compounded by the fact that Americans work longer hours than they did two decades ago. "Bill Clinton has created ten million jobs - and two of them are mine" was one complaint heard in worker's circles during Clinton's 1996 re-election campaign. Predictably, there is a lot of dispute about whether the US became competitive with the Third World by forcing Third World standards of living on its workers. Even *Fortune* Magazine has been wondering why "nearly half of all the new full-time jobs created in the 1980's paid less than $13,000 a year, which is below the poverty level for a family of four." Also, education levels don't necessarily help anymore. As reported by the *Wall Street Journal*, one college graduate out of three is now obliged to take a job which doesn't require a college degree.[11]

In Western Europe, the unemployment rate has been stubbornly stuck at a very uncomfortable 10% level for almost a decade. At the end of 1998, in Germany the official number is 10.8%, in Italy 12.3%, in France 11.5%, in Belgium 12.2.1%, and in Spain a mind-boggling 18.2%.

The main difference between America and Europe is that in America, people end up accepting employment below their competence and training. Is a college graduate flipping hamburgers to be interpreted as a sign of a healthy economy and the high-tech society of the future? One graduate of the class of 1996 summarized his friends' experience of the 'real working world' as follows: "Half of us are ridiculously overworked, and the other half are seriously under-employed. It seems like a choice between workaholism or depression, and nothing in between. And this is supposed to be a good year for the economy!"

John Grimes Cartoon
"Workaholism"

[11] Both the Fortune and Wall Street Journal references as quoted in Netview (Global Business Network News) Volume 7, Number 1 (Winter 1996) respectively pg. 16 and pg. 9

Even in Japan, where employment by the same company is practically considered a birthright, unemployment keeps inching up.
What *is* going on?

The Age of Downsizing

Most of us have been trained to believe that we learn a profession, are hired by a company to perform a job in that profession, and - if we do all the right things - we will move up through the ranks until retirement. But this whole idea has already become as obsolete as the dodo.

For the past three decades businesses have invested billions of dollars in information-processing equipment. The rate of growth of such investments has been higher than any technology in history. For instance, the share of Information Technology investments in US firms has jumped from 7% of total investments in 1970 to 40% in 1996. Add the billions of dollars spent on software, and the amount spent on Information Technology, annually, now exceeds investments in all other production equipment combined.[12]

To understand the true scale of this, one needs to *multiply* this extraordinary *increase in dollar investments* by the even more remarkable *drop in unit cost.* Computer processing costs have continued to drop by 30% per *year* for the past two decades, and all experts agree this will continue for at least another decade or two.

Initially repetitive tasks were computerized in one area after another of the corporation. However, all computer applications were really being built around the existing organizational structure and management procedures. One day someone thought to reverse the process by asking the simple question: "how should we organize ourselves to best take advantage of the available information technologies?"[13]

Re-engineering was born.

So were "strategic layoffs."

In all fairness, such layoffs were not the intent of the original re-engineering inventors. One of the earlier pioneers was Thomas Davenport, research VP at CSC Index (the 'home' of Reengineering).

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[12] Data from The Economist (September 28, 1996) pg. 13
[13] The book that got it all rolling was Hammer, Michael & Champy, James Reengineering the Corporation: A Manifesto for Business Revolution (New York: Harper Business, 1994)

In an article in *Fast Company*, Davenport reported that: "Re-engineering did not start out as a code word for mindless corporate bloodletting. It wasn't supposed to be the last gasp of Industrial Age management. I know because I was there at the beginning. I was one of the creators.... But the fact is, once out of the bottle, the re-engineering genie quickly turned ugly."[14]

And like all genies, it cannot be put back into the bottle.

Large corporations worldwide have been shedding people at a rate of between one and two million people per *year.* And this is happening for the first time at all levels in the corporation. When Kodak reduced its number of management layers from thirteen to four, a lot of people who never thought it could happen to them found themselves out of a job. Of course, a lot of new jobs are being created outside these corporations, but they usually do not measure up in terms of income level or security that people were used to and had grown to expect.

Cartoon
Oswald Huber
"Cost Cutting Inc."

What is important to realize is that these "strategic layoffs" are of a totally different nature from the normal cyclical layoffs of yesteryear. It was considered normal for example that factory workers would be let go whenever inventories of finished goods piled up as the business cycle moved into low gear. They would also be hired back as soon as these inventories were absorbed and the good days of the cycle returned. But with strategic layoffs, there is no reason to expect that the business cycle will reverse the trend. What is going is gone forever. Growth without increased employment is not a forecast; it is an established fact. William Greider's statistic is worth repeating: the world's 500 largest corporations make and sell seven times more goods and services than 20 years ago, but have managed simultaneously to reduce their overall work-force.

Even the people who remain or are hired in these corporations face a very different process from previous times. The old criteria for hiring used to be the matching of job specifications to the classical three E's: Experience, Endorsements and Education.

Today everything is different at the pace-setting corporations such as CNN, Intel or Microsoft: "Nobody has a job. Even if someone is hired for a job, we forget about that as soon as he or she is in.

[14] quoted in The New Leaders (San Francisco: Sterling and Stone, Co.) May-June 1996 pg. . 6

The work is being done mostly in project teams which may often include outsiders. People have assignments, 'own' a problem or an opportunity, but not a job."[15]

In addition to straightforward layoffs, the need for additional flexibility has pushed corporations to redefine their own boundaries by:

- **Outsourcing:** Xerox machines are being installed by Ryder truck drivers; Commodore computers are being repaired by the Fedex personnel which used to only deliver the parts.
- **Delocalization**: One of the largest US insurance companies, Metropolitan Life, is billing from Ireland; British Airways is handling its accounting in Bangladesh; California software companies are debugging from India.
- **Temping**: probably the most significant of all these new trends from a society viewpoint. The single largest employer in the US is now Manpower, whose business is to place *temporary* personnel in corporate jobs.

If you believe that all this is happening only in '"greedy private businesses," think again. Even the military - historically a rather eager employer of able bodies - is embracing the new way of thinking. The 1997 strategic review of America's defense capabilities concluded that as many as 50,000 active-duty troops should be cut, especially in the army, to help pay for weapons such as computerized artillery systems and electronic detectors of biological weapons. The Quadrennial Defense Review, analyzing what will be needed from now to 2010, has focused on cutting "infrastructure costs" (now 40% of total Defense Department appropriations). This covers everything not directly related to its "core competence" of fighting wars: from the military bases' cafeteria managers to schoolteachers, day-care centers to accountants. You guessed it: they are now "privatizing" and "outsourcing" these functions.

None of this should be seen as a short-term fad. A UK survey funded by the Department of Education and Employment and published by Business Strategies, a consultant company with close links to the Treasury, concludes that no new full-time employment is to be expected in Britain during the next *ten years*. [16] While an optimistic forecast is supplied for self-employment and part

[15] Bridges, William Ibidem
[16] Bassett, Philip: "Decline of full-time work to continue, says forecast" in The Times (London: October 29, 1996)

time jobs totaling 1.5 million over that time period, *none* is expected to come from what was once considered 'normal' full-time jobs.

Nor should any of this be considered as a purely Anglo-Saxon trend. A survey of 4720 organizations in fourteen European countries performed by the Cranfield School of Management on behalf of the European Commission reports a staggering increase in part-time or fixed-term (up to 3 months) employment even just in the past year. The largest increase was in the Netherlands, where 70% of the corporations increased their use of part timers. More than 50% of the German, Italian, Finnish and Swedish corporations are now doing the same. The rest of Europe has registered an increase in "only" 30% to 50% of the corporations. [17]

Dr. William Bridges, an expert on employment trends, asks the question: "What is the percentage of jobs which are performed by temporary labor?" Most people's estimates fall in the range between 2% and 20%.

His answer: "In fact, it is 100%; 85% of us still happen to be in denial."[18]

Economic Consequences

The International Metalworkers Federation in Geneva forecasts that "within 30 years, as little as 2 percent of the world's current labor force will be needed to produce all the goods necessary for total demand." The interesting question is, of course, what will the other 98% do?

Some may argue: So what, jobs are disappearing? It has all happened before:

- in 1800 over 80% of the US population was occupied in farming;
- by 1900 this was down to 48%;
- by 1950 to 11%,
- and now to an insignificant 2.9%.

And that 2.9% not only feeds the entire nation better than the 80% ever did, but it feeds a good deal of the rest of the world as well! All these people who moved out of farming found jobs in the cities in industry, the trades, and services.

[17] reported by Melania Brian in The Independent (October 15, 1996)
[18] Bridges, William Understanding Today's Job/Shift Conference in San Francisco, April 1995. Many of the US corporate examples provided in this section come from his research.

This is, of course, true.

However, there is a structural difference when we are dealing with an Information Revolution instead of an Industrial Revolution. A farmer became a stagecoach maker, and the stagecoach maker could learn how to make automobiles. Every time he would change jobs he also would earn more money than before. But what is a no-longer-needed information handler to do, flip hamburgers? (Sidebar).

> ***Paul Krugman vs. Wiliam Greider and Robert Reich***
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> In a series of witty essays[19] Paul Krugman has sent a broadside to the best-selling books[20] of a famous journalist (William Greider) and a Secretary of Labor of the Clinton Administration (Robert Reich). He attacks what he calls "emotionally satisfying myths" relating to a potential job crisis due to technology changes. Krugman's punches fall in two categories:
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> - He attacks the "lump of labor fallacy" i.e. the idea that there is only a limited quantity of jobs in the world, and therefore as productivity rises the number of jobs available automatically is reduced. He counters with the argument that while productivity gains in one sector may indeed provoke job losses in that sector, it stimulates even more job creation in other parts of the economy. And he provides the classical example of productivity increases and job losses in the manufacturing sector over the past thirty years being more than compensated by new jobs in the service sector.
> - Much of the debate about the relationships between globalisation, trade, technology and jobs are really irrelevant because "if you want a simple model for predicting the unemployment rate in the United States over the next few years, here it is: It will be what Greenspan wants it to be, plus or minus a random error reflecting the fact that he is not quite God."[21] This is so, because Greenspan can take all the impacts of changes in trade or technology into account, and adapt his monetary policy accordingly.
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> I fully agree with both these points. But I remain nevertheless concerned about the issue of jobs because of the following two questions:
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> - Losing jobs in one sector while creating jobs in another sector may be OK from an overall statistical viewpoint, but it is not quite that simple for the individuals involved. If such change occurs over a generation, it was realistic and even quite consistent with the American dream that the child of a steelworker becomes an electronic engineer or a lawyer. But how realistic is it to hope that the laid-off steelworker himself will have the financial resources or acumen to recycle to the high-tech jobs which the new economy is creating? As the *speed of change* accelerates, the number of people caught between the old and the new growth sectors will predictably rise. What should these people do?
> - Why has roughly a third of humanity (most of it in the so-called Third World) been under- or unemployed for as long as we have data about it? An estimated 700 million people worldwide have been unemployed for decades. Krugman's answer may be that this is not Greenspan's concern. Nevertheless the Federal Reserve decisions directly affect millions of jobs around the world because of the dollar's global role. When Paul Volcker decided to stamp out inflation in the US in the 1980's he sent all of Latin America in a tailspin. In other words, I claim that the issue on global employment is not an economic management problem but an *institutional* predicament.
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> I also allege that the approach recommended later in this chapter could alleviate that issue by giving a role for currencies *complementary* to the national currencies that Greenspan and his colleagues manage. Furthermore, if such currencies are well designed they can help rather than hinder the aim of lower inflation on the national currencies (as will be shown in Chapter 7).

This time we may well remain stuck between a rock and a hard place. Because - while it makes sense for each corporation to improve its competitiveness by downsizing - this time all the pieces

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[19] Krugman, Paul The Accidental Theorist and other Dispatches from the Dismal Science (New York, London: W.W. Norton & Co, 1998) particularly Part I "Jobs, Jobs, Jobs")

[20] Greider, William One World, Ready or Not ; Reich, Robert Inside the Cabinet

just don't add up. When Henry Ford decided to make a car that was so cheap that his factory workers could buy it, he put in motion a virtuous cycle between more cars, more workers, more cars, more workers.

Oswald Huber Cartoon
"Career Advisory Services"

Jobless growth may very well turn this virtuous cycle into a vicious one, operating in the other direction. Every time people are laid off, or are forced to reduce their income, they are going to drop out of the market for at least some of these great new widgets that the corporations keep producing. Even if each corporation is better off at each step, the total market pie is shrinking, so cumulatively we may suddenly find everyone worse off, even the corporation itself.

The fact that this is a global game further complicates the picture. Plants that are being built in the Third World use technologies which are just as effective as those applied in the First World. And a decade of "structural adjustment" policies implemented by the International Monetary Fund have stripped away many of their skimpy social safety nets as well.

Keynes' Foresight

John Maynard Keynes, in his *Essay on Persuasion*[22], predicted over sixty years ago with remarkable foresight that a time would come when the production problem would be solved, but that the transition was likely to be a painful one:

"If the economic problem [the struggle for subsistence] is solved, mankind will be deprived of its traditional purpose. [...] Thus for the first time since his creation man will be faced by his real, his permanent problem [...] There is no country and no people, I think, who can look forward to the age of leisure and abundance without a dread. It is a fearful problem for the ordinary person, with no special talents to occupy himself, especially if he no longer has roots to the soil or in custom or in the beloved conventions of a traditional society."

The writing is on the wall: we are in this predicament *now*.

From as far back in history as anyone can trace, people have been identifying with their jobs.. We still describe ourselves as stone cutters, professors, bankers, computer experts. In fact, many of our most common family names are derived from various jobs and professions: Smith, Fletcher (arrow

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[21] Krugman, Paul Ibid. Pg 31
[22] Keynes, John Maynard Essay on Persuasion(1930)

maker), Potter or similar titles in living or dead languages. It goes back all the way to the stone age. In the earliest Sumerian tablets, the writer identifies himself as "So-and-so, the Scribe."

If Keynes is right, we will for the first time in history be forced to reinvent ourselves, to find other ways to identify who we are. We won't any longer be able to identify ourselves with these "production labels." In other words, we will be forced to seek other identities, other reasons that give a purpose to our lives. Keynes concluded that "no country can look forward ..without a dread" to this unprecedented historic shift.

Nor was Keynes the only one to foresee such problems. Norbert Wiener, the originator of cybernetics, was also one of the very first to warn us of the social implications of computers: "Let us remember that the automatic machine [i.e. computer driven production equipment] ...is the precise economic equivalent of slave labor. Any labor which competes with slave labor must accept economic conditions of slave labor. It is perfectly clear that this will produce an unemployment situation in comparison with which the present recession and even the depression of the thirties will seem a pleasant joke."[23]

But are there not already some telltale signs of what that may look like?

Socio-Political Consequences

Within the existing framework, we can have a fairly good idea of what is going to happen. We just have to look around us: it is already happening. I call it the "vicious circle of unemployment."

It involves a six step feedback loop as follows (see Figure 5.1)

1. Unemployment creates a feeling of economic exclusion;
2. Part of those touched express it through violence;
3. Most ordinary people react to the violence with fear
4. Community breaks down , society becomes unstable, political polarization increases
5. Fewer investments take place, fewer things are bought
6. The investment climate deteriorates. More unemployment is created

[23] Wiener, Norbert: The Human Use of Human Beings (New York: Houghton Mifflin, 1950) pg 162

And the whole process starts all over again from the beginning.

```
  ---------> Unemployment Up
 |                  |
 |                  V
 |         Economic Exclusion
 |                  |
 ^                  V
 |         Violence by a Few
 |                  |
 |                  V
 |          Fear for the Many
 |                  |
 |                  V
 |         Political Polarization
 |                  |
 |                  V
 |<-- Unfavorable Investment Climate
```

Figure 5.1: Vicious Circle of Unemployment within existing framework

Let us visit this vicious circle step by step.

Economic Exclusion

"From the standpoint of the market, the ever-swelling ranks of the [unemployed] face a fate worse than colonialism: economic irrelevance... We don't need what they have and they can't buy what we sell." This is how Nathan Gardels, editor of *New Perspectives Quarterly,* summarizes the linkage between unemployment and economic exclusion. It translates into the increasing realization by those concerned that there is no room for them in this society, that they don't belong here.

When this happens to an individual, he or she usually becomes depressed (is it a coincidence that the National Institute of Mental Health in the US has declared depression a national epidemic?).

When this happens to a group (as is typically the case for the younger generation where unemployment is always higher than in the population at large), it is normally expressed as anger. Such anger accumulates until it explodes into a violent rage lashing back randomly at society at large, or at some specific scapegoats.

Violence

Niccolo Machiavelli (1469-1527) thought that: "It is necessary and useful that the laws of a republic give to the masses a legal way to express their anger. When this isn't available, extraordinary outlets manifest. And there is no doubt that such events produce more harm than anything else."[24] Indeed, violence is usually the expression of frustration and impotence.

In a suburb of Lyon, France, a police car runs over and kills a teenager. Such a regrettable accident would normally make the news only in the local papers. But this was Vaux-en-Velain, a depressed working-class neighborhood where unemployment among the young is particularly high. Hundreds of young people took to the streets, clashed first with the police, then with the CRS (the special riot troops). The fighting lasted three days, and caused over $120 million in property damage.

The one point the residents and the government officials agreed upon was that the root cause of all the mayhem was the high unemployment levels of the youth.

The French sociologist, Loic Wacquant, made a systematic study of urban rioting in the developed world. The majority of urban rioters - independently of the country involved - have a common profile: they are formerly working-class youth which has given up on finding a job in the brave new world of the Information Age.

Fear by the Majority

The next step is an easy guess. How do most people react to random acts of violence against property and people? Fear is the answer.

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[24] Machiavelli, Nicolo in the anthology by Bouthout, Gaston L'Art de le Politique (Paris: Editions Seghers, 1969) pg. 146

Fear of what will depend on the interpretation given to the events, and this will vary in turn with the location, age, origin, social background, nationality of the observer.

It ranges from fear of all young people, fear of punks, fear of all immigrants, fear of Blacks in America, fear of Arabs in France, fear of Turks in Germany, to fear of .... (please fill in the blanks for your area).

Political Polarization

Fear is to politics what the ocean is to an island. It draws the boundaries of the constituency, who you want to exclude and who you want to attract.

This is why politicians everywhere tend to blame another country whenever possible when there are particularly tough situations to deal with. *Nobody* can vote for them there. But unemployment and violence usually results in a need to focus blame to situations closer to home.

For example, one cannot distinguish whether the campaign slogan “These immigrants are the cause of your job problems” comes from a Pat Buchanan in the US, Zhirinofsky in Russia, Gianfranco Fini in Italy, or Jean Marie Le Pen in France. All have started a political movement just recently, and already attract between 10 and 20% of the voters. Finally, as unemployment and violence increases, these more extremist parties should be expected to grow

On election night 1994 in Italy, the neo-fascist leader Gianfranco Fini was greeted by young people (mostly unemployed) with chants of “Duce! Duce!” while his party won an unexpected 13.5% of the national votes. Commentators were amazed as to why young people - too young to have known Mussolini or experience nostalgia for his time - somehow spontaneously reinvented the same values and slogans used by their grandparents. It is, in fact, predictable.

As more extremist parties play a bigger role in our political systems, it gets harder and harder to “hold the center.” Positions become more polarized across the political spectrum, and maintaining a consensus becomes almost impossible. This can be fertile ground for extreme nationalism, all the way to “ethnic cleansing” such as what happened in Yugoslavia in the 1990s after the IMF imposed economic restructuring, or in Indonesia with killings of various minorities after the collapse of the Rupiah in 1998-99. Furthermore, these problems can even spread when populations flee the mayhem to take refuge in neighboring countries, and create new unemployment problems there..

Imagine what all that does to an investment climate.

Feedback to increased unemployment

Everybody takes a defensive position, reduces investments, and therefore the employment opportunities drop further.

This increasing unemployment will make us go through the entire loop once again: it is a vicious circle which - once started - is particularly difficult to break.

Case Studies

There are many historic and contemporary examples of this process. Entire countries have gone through it with devastating results. We could take several examples in Latin America, where political instability caused not only foreigners to take their money out of the country, but the citizens themselves would not invest in their own country (e.g.: Peru, Bolivia or Argentina in the 1970's). The unemployment levels skyrocketed, and massive internal migrations occurred to the larger cities in hopes of finding jobs - which weren't there either. Their descendants are still there in the *barrios, barriadas, villas, favelas,* and other shanty-towns. An even more telling tale is how many African-Americans congregated in the slums of the largest cities of the Northern United States in less than two generations[25].

The creation of the African-American urban underclass

Before World War II, more than 90% of all blacks in America lived south of the Mason-Dixon line, and had jobs in agriculture. The pivotal event which would change that forever took place on October 2, 1944, when 3,000 people crowded into a cotton field near Clarksdale, Mississippi. It was the first demonstration of the mechanical cotton picker. It was a marvelous sight: one single machine would do the job of 50 people. It also meant that for the first time since the blacks were brought over as slaves to work in the Southern agricultural estates, their hands and labor would not be needed.

For the first time, they became *economically irrelevant*. "One of the largest and most rapid mass internal movements of people in history started."[26] Between 1950 and 1970, over five million black men, women and children migrated from the South to the larger industrial towns in the North in search of jobs. It didn't quite work out the way they hoped, because that is exactly when automation

[25] Case material assembled by Jeremy Rifkin for an article "African Americans and Automation" Utne Reader Number 69 (May-June 1995) pg. 68
[26] Nicholas Leman quoted by Rifkin Ibid.

hit the manufacturing industries in turn. "It is as if racism, having put the Negro in his economic place, stepped aside to watch technology destroy that place."[27] The unskilled black workers of the inner cities were indeed the first to be let go.

Over time, the black community split up into two distinct economic classes. A significant number managed to take advantage of the loosening grip of race discrimination and become middle-class mainstream Americans. But millions went down the spiral: from economic exclusion to violence and fear, from extremist political positions to burned neighborhoods where nobody wants to invest. These neighborhoods spawn what is now called the underclass - a permanent unemployed part of the population who live at the margin of society, where the only remaining choices are either to become a welfare recipient or make a living in the underground economy of drugs and crime.

It is more striking because it occurred in the most economically advanced country in the world, during a period of high economic growth. It could very well become the blueprint of what happens with First World workers when technology makes significant portions of the population obsolete. The main difference is that the Information Age would make that process geographically universal (as opposed to a South - North shift, in the case of the black Americans), possibly without a racial bias. This time we are all potential victims.

This picture may appear too grim. After all, racism was an exacerbating element. But this case study remains a stark illustration of what normally happens within this framework when large groups of people become economically irrelevant, at *least if we remain within the framework of the existing money system.*

Traditional Solutions

It should not come as a surprise that the solutions most commonly presented for today's unemployment problem fall into different camps, depending on from where the recommendation comes in the political spectrum. The old political divide between Right and Left still provides the easiest classification of the traditional solutions.

[27] Tom Kahn The Problem of the Negro Movement (1962) quoted by Rifkin Ibid.

George Lakoff has proposed a coherent explanation of the internal dynamics and logic of both the Right and the Left, in US parlance of the Conservatives and the Liberals.[28] He shows that American politics is in fact an extrapolation to the public domain of two opposing images of an "ideal family." They have in common to see the nation as a "big family," with the government as parent. But their definition of what makes a "good family" is quite different. Here follows a brief summary of the two types of family underlying the two main political belief structures and worldviews.

The **Conservative** worldview based on the ideal of a **"Strict Father"** model

"It posits a traditional nuclear family, with the father having primary responsibility for supporting and protecting the family as well as the authority to set overall policy, to set strict rules for the behavior of children, and to enforce the rules. The mother has the day-to-day responsibility for the care of the house, raising the children, and upholding the father's authority. Love and nurturance are, of course, a vital part of family life but can never outweigh parental authority which is itself an expression of love and nurturance - *tough love.* Self-discipline, self-reliance, and respect for legitimate authority are the crucial things children must learn. Children must respect and obey their parents; by doing so they build 'character,' that is, self-discipline and self-reliance.

Once children are mature, they are on their own and must depend on their acquired self-discipline to survive. Parents are not to meddle in their lives."

Pursuit of self-interest is seen as a way of using self-discipline to achieve self-reliance. It is therefore natural to see the function of government as requiring citizens to be self-disciplined and self-reliant. And that - once a citizen has become an 'adult' - government should 'not meddle' in their lives.

The **Liberal** worldview based on the ideal of a **"Nurturing Parent"** model.

"Love, empathy, and nurturance are primary, and children become responsible, self-disciplined and self-reliant through being cared for, respected, and caring for others, both in their family and in their community. The obedience of children comes out of their love and respect for their parents and their community, not out of the fear of punishment. Good communication is essential. Questioning children is seen as positive, since children need to learn why their parents do what they do...What children need to learn most is empathy for others, the capacity for nurturance, and the maintenance of social ties, which cannot be done without the strength, self-discipline, and self-reliance that comes from being cared for. When children are respected, nurtured, and communicated with from birth, they gradually enter into a lifetime relationship of mutual respect, communication and caring with their parents."[29]

Under this model, it is natural to see the government step in to help people in need. Hence the variety of social programs designed to meet all kinds of specific problems.

[29] Lakoff, George Moral Politics:What Conservatives Know that Liberals Don't (Chicago and London: University of Chicago Press, 1996). Pgs 33-34

When applying these two political viewpoints to the unemployment problem, the following policies predictably emerge.

Solutions from the Political Right

The Conservatives posit that employment is not something the government should get involved in , and that over time free markets will take care of this rather messy problem. They did so in the past, and will do it again.

When Milton Friedman was asked whether the Information Age might not outdate this approach, he answered - only half jokingly - that we can always create jobs by psychoanalyzing each other to deal with the breakdown.

In practice, the Conservatives will tend to deny the existence of any structural employment problem. When faced with the social tensions which result indirectly from unemployment, they will often deal with the symptoms in the sequence in which they manifest. This amounts to clipping the branches while the roots remain intact. For instance, one slogan on the Right is that jobs are gone because immigrants take them from you, therefore let us crack down on immigration. Another solution recommended by the Right is tougher laws on crime. As a consequence, prison building has become one of the biggest growth industries in the US.

Learning from the past on the Right?

Blaming a minority for the structural issues of the majority has a very long history. The biblical Jews had a ritual for it: choosing a black goat or sheep, "loading it with all the sins of Israel," and then sacrificing or abandoning it to die in the wilderness. There have been times when their descendants - and many other minorities - could wish that the modern world had adopted such collective safety valves. Do we need to remember the extremes into which civilized nations can slide, once they get going on that path, when only one generation ago Germany looked for a scapegoat for its problems?

Building more prisons may well be seen in retrospect as the most expensive welfare system in history: paying $20,000 per person per year to keep someone in prison forever is unlikely to prove to be the most cost-effective method of tackling the vicious circle of unemployment.

The most likely outcome of this scenario is what has already happened in many Third World countries. Instead of indefinitely putting more people in prison, what ends up happening is that those who can afford it lock themselves up in "golden ghettos," or other gated communities. Whatever the level of luxury or comfort that these golden ghettos can provide, it still boils down to a self-imposed prison system. In parallel, the majority of society - those who cannot afford the golden ghettos - is left to fend for itself in a gang-infested urban jungle. Is that *really* an acceptable evolution for a democratic society?

Solutions by the Political Left

A typical analysis of the unemployment problem by the Left is that of Jeremy Rifkin[30]. His solution to build "social capital" has three main components:

- reducing the workweek from 40-hours to 35- or 30-hours (a strategy which France is testing).
- taxing the new high-tech production technologies
- using the proceeds of such taxes to pay for vouchers which can be issued to those working in the non-profit world.

The more populist Left blames the disappearance of the jobs either on the greed of the corporate world, the internationalization process itself hiding behind strange acronyms (e.g.: IMF, GATT, NAFTA , EU), or some other conspiracy. The solution logically implies a slow down or counteract these forces.

Learning from the past on the Left?

The solutions recommended from the Left have also been tested recently. Some of the remnants of the New Deal and the Great Society projects in the US and the Welfare States in Europe are still around in the form of youth job creation programs and the like.

Government created jobs have left an aftertaste of failure, as well as a legacy of heavy taxes and bureaucracies, not to speak of unmanageable deficits and debts which will still have to be paid off well into the twenty-first century. No society, however generous, can indefinitely afford to keep a

[30] Rifkin, Jeremy The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era (New York: Putnam, 1995)

growing number of people on welfare; i.e., it is not a realistic option if the unemployment losses are not cyclical, but structural. The real problem is that these welfare programs have failed to lift people out of poverty. Worse still, the people who are being helped in this way on a long-term basis lose self-respect and dignity as well.

Why Traditional Solutions won't work this time

However well intended the proposals are from both sides of the political spectrum, neither will solve the problem at hand.

The big strategic question is whether the current unemployment problem - or in America employment at levels below one's skill or training - is a short term problem that will disappear with the next business boom cycle; or whether we are dealing with a structural process, which will systematically grow over time. Much academic ink has been spilled on trying to distinguish which of the two we are dealing with. In truth we may be dealing with *both.*

I will distinguish between three types of unemployment.

1. The so called "frictional" unemployment: even under the best of economic circumstances in a free market there will be some people who are fired or who leave and who remain for a few weeks or months "in between jobs." We should expect there to be always some small percentage of people in such a transition.

2. Employment due to the "inventory adjustments" in the normal business cycle. This manifest when stockpiles of finished goods grow in an industry. While this inventory is being gradually liquidated, quite often businesses will tend to temporarily reduce their production work-force. Again, we should expect that as long as there is a business cycle, demand for labor also to fluctuate between the good and the bad years.

3. However, we now have enough evidence that in addition to both well-known types of unemployment described above, a long-term structural trend has also started to build up. This explains why the "frictional" unemployment seems to get worse decade after decade. This structural trend turns out to be just the job market consequence of the shift in the production processes from the Industrial Age to the Information Age. To the extent that this is true, none of the solutions proposed within the traditional Left-Right Political Divide framework will be capable of dealing with the structural nature of this problem. As we are only just starting to really enter into the Information Age, we should only expect a further acceleration of the corresponding trends.

> ***The "Two-week Revolution"***[31]
> As soon as the "first nano-assembler works, we could order it to build another one. Then we could tell them to build other things. A great flourishing of new nano-technologies would follow -- as fast as we could design them... When the first assembler works, a stampede of working machines could follow. This sudden surge of working nanotechnologies has been called the 'two--week revolution'. In the first two weeks after the assembler breakthrough, the world will change radically. For some, this is not a metaphor but a prediction of great changes a matter of days. Entire new system of fully functional technology will emerge, ready to transform the world."
>
> Expert consensus is that this breakthrough is to be expected sometime during the first decade of the 21st century. Even if it takes longer than two weeks -- as it most likely will -- the long-term implications should be clear: production without human input is a realistic possibility.

For instance, breakthroughs in nano-technology -- processes which enable to build objects atom-by-atom -- promise to make obsolete the very idea that direct human labor is a necessary ingredient in production processes (sidebar).

Our Next Leading Socio-Political Problem

As several futurists predicted a couple of decades ago[32], accelerating technology is finally catching up with us. Therefore jobs promise to increasing become one of the hottest international political issues. In a global market system, no country or area can really opt out of world "progress," without running the risk of also sliding into a downward spiral of under-development. On the other hand, we

[31] Cradall, BC Nanotechnology: Molecular Speculations on Global Abundance (Cambridge: The MIT Press, 1996). Pg. 52.

have not developed institutions or mechanisms to deal with the social dislocations that our new technologies lead us to.

"Here we stand, confronted by insurmountable opportunities!"[33]

Neither Left, nor Right, but Forward?

The traditional Left-Right debate is itself an inheritance of the Industrial Age economic framework. The origin of that debate had to do with private or public ownership of the "means of production," i.e. the factories and machines. As the means of production are becoming knowledge, the new political and economic vocabulary to deal with these new realities doesn't yet exist.

But how about changing the monetary framework itself? To understand this, let's first play a very simple game called the "Sufficiency of Money Game."

The Sufficiency of Money Game

The game can be played with one or several people. You can do it by yourself, with your family or a group of friends or strangers. You may learn a lot about yourself and others in the process. There are no losers in this game; but the one who has most fun wins.

Just pretend that there is no scarcity of money. It has just happened by magic. You have become the founder of a large financial institution or foundation and the rules of the game require you to spend your money within your community. It can be a neighborhood, a group of friends or your family, a whole region, or a non-geographic community like a sub-group on the Internet. You then decide what you want to do with your money in this community. You can realize your dreams, and create a community of your dreams.
Then you answer these three questions.
1) What talent would you like to develop and offer to your community?
2 What is the vision of your newly formed community? What would you like to accomplish as a group?
3) Who are the other people or organizations you need to realize this vision?

If you play this game with others, have everyone explain their answers.
In a second round, see how your different dreams can help each other, how some of your initiatives can mesh with those of others. You will often find that they strengthen and synergize each other in unexpected ways

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[32] Michael, Don: Automation: the Silent Conquest( ); Michael, Don The Unprepared Society( ); Toffler, Alvin: Future Shock( )
[33] quote by philosopher Pogo Possum.

* *

Some of the goals for communities that have come up when this game has been played include:
* Quality Child care.
* Teaching.
* Youth mentoring.
* Elderly care.
* Infrastructure repair.
* Housing rehabilitation.
* Environmental cleanup.
* The greening of towns.
* Arts, entertainment, music, dance, theater, fun
* Public transportation
* Crime prevention.
* Preventive health care.

We can see that there is a lot of work to be done in our communities, in our cities, among the people and the families that we live with and around.
There are people capable of and willing to do the work - people who have the skills and the knowledge to achieve these things. Our problems are not caused by a scarcity of people or ideas. There are even organizations who have the skills to hire the people and put them to work. This could all be done. What is missing?

Waiting for Money, or is it Godot?

What is missing is money. *Everyone is waiting for money.*
If one stops to think about it, it is a fascinating phenomenon.
Imagine a Martian landing in a poor neighborhood and seeing rundown communities, people sleeping in the streets, children without mentors or going hungry, trees and rivers dying from lack of care, ecological breakdowns and all of the other problems we face. He would also discover that we know exactly what to do about all these things. Finally, he would see that many people willing to work are either unemployed, or use only a part of their skills. He would see that many have jobs but are not doing the work they are passionate about. And that they are all waiting for money. Imagine the Martian asking us to explain what is that strange "money" thing we seem to be waiting for. Could you tell him with a straight face that we are waiting for an "agreement within a community to use something - really almost anything - as a means of payment"?

And keep waiting?
Our Martian might leave wondering whether there is intelligent life on this planet

But how about changing the monetary framework itself?

What this game illustrates is what Edgar Cahn, the creator of Time Dollars, means when he says:

"The real price we pay for money is the hold that money has on our sense of what is possible

- the prison it builds for our imagination"[34]

The fact is that there is enough work to be done for everyone in your community to keep busy for the rest of his or her life. Work that expresses our specific creativity. Have we become so hypnotized by our fear of the scarcity of money that we are also fearing lack of work?

So what can we do?

The short answer is: create *complementary currencies* designed to fulfill social functions that the national currency does not or cannot fulfill. A variety of such non-traditional currencies already in operation in over a dozen countries will be described below. Here I will just outline the new possibilities such a strategy would create.

Imagine what becomes possible when two complementary economic systems are allowed to operate in parallel. On the one side a competitive global economy driven by the mainstream existing national money system, and a cooperative local economy fueled by the complementary currencies. The competitive economy would be the familiar "jobs" of today paid in scarce national currency, while the cooperative economy could encompass all kinds of activities that people are happy to pay for in a complementary currency always available in sufficiency. Unemployment and underemployment could be resolved by people doing work at improving their communities, and payable in local currency.

As in the vignette story "A World in Balance" (chapter 1) most people would be involved part of their time in both economies. Or within a given family some members would be employed mostly in the global competitive economic loop, while another might be active mostly in the local economy. Hopefully both might be "following their bliss," ideally both having the opportunity for their work also become their job.

Such an outcome is possible within what I will call the "Integral Economy" (explained in detail in Chapter 9), which consists of both the traditional competitive economy on one side, and a local cooperative economy on the other. The former produces financial capital, and the latter social capital. They can operate in symbiosis with each other, as represented in Figure 5.2.

[34] Cahn, Edgar :qoted in YES! A Journal of Positive Futures special issue on Money: Print your Own (#2 Spring 1997) pg. 12

Yin-Yang Economies with Complementary Currencies

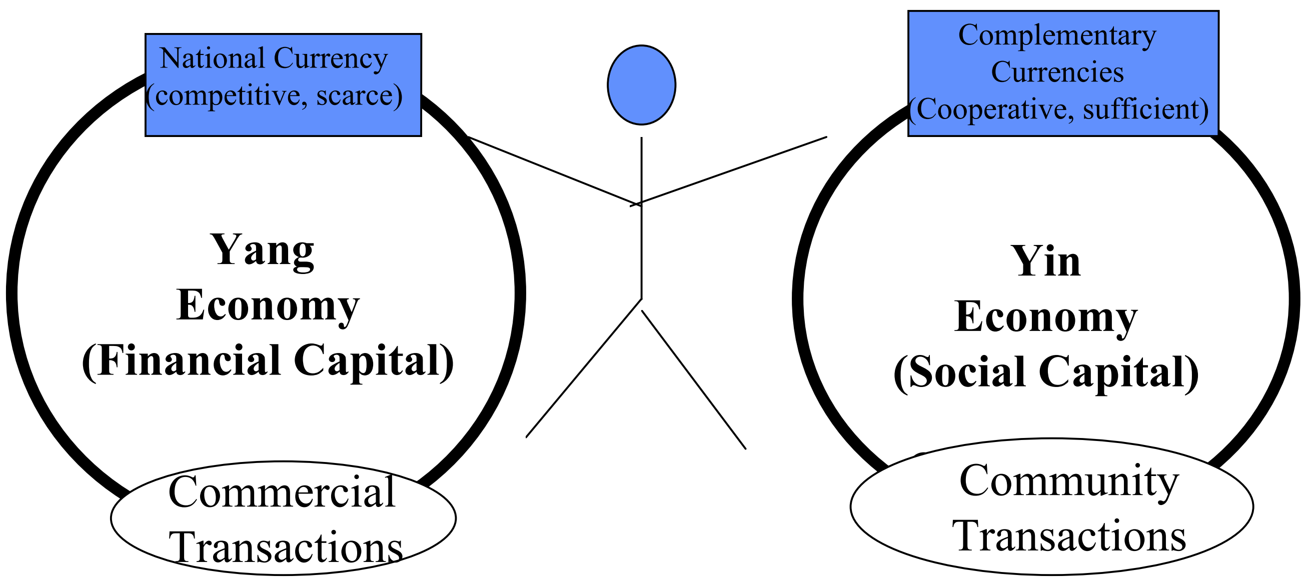

Figure 5.2 Integral Economy with Complementary Currency Systems.

I call it "Integral" because it aims at integrating dimensions that the official economy has tended to downplay or ignore. But before understanding how the Integral Economy operates, we need to gain more familiarity with these non-traditional currencies which would complement the usual national currencies. Examples of such complementary currencies are the topic of the balance of this chapter, and the next one.

What was most surprising to me was to discover how remarkably close we once were to implementing such a solution once before, back in the 1930's. However, governments at the time did not seem ready to give this approach a real chance. The *Zeitgeist* of the 1930's was favoring strongly hierarchical and centralized solutions to all problems. You will also see that these experiments were stopped by governments, not because they were not working, but because they were working too well without the need for central government involvement.

The Path not Taken in the 1930s

If your family lived in the 1930's in Western Europe, the US, Canada or Northern Mexico (i.e. the area where the Great Depression hit hardest), you may have heard about the path not taken. In the aftermath of the German hyperinflation period of the 1920's, or of the Crash of 1929 in the other countries, literally thousands of communities started their own currency systems. Your village or town probably used one.[35] Before we get into some actual stories of how these systems came to be, let us look at the general context in which this was taking place, highlighting the differences and parallels with today.

[35] There is a remarkable catalog of over 300 pages which makes an inventory of several thousand examples of which sample currencies have been kept. See Mitchell, Ralph A. And Shafer, Neil Standard Catalog of Depression Scrip of the United States in the 1930's including Canada and Mexico (Iola, Wisconsin 54990: Krause Publications, 1984).
The Chase Manhattan Bank Museum of Money of the World has also an extensive collection of these items.

1930's Problems: Some Differences and Parallels

There are obvious differences between the context of the 1930s and today. However, notwithstanding the differences, some disturbing similarities can be detected in the results of the monetary policies pursued today (see sidebar).

During the 1920s in Germany, the Reichsmark had completely collapsed. (The meltdown of the Russian Ruble is a parallel today).

In other countries, the national currency had become unbearably scarce because of bank and business failures of the 1930's. (Today's parallels can be found in the Asian and Latin American credit crunch).

New Ways to Repeat Old Problems?

The monetary mistakes made in the 1930s are now part of any economic textbook. The consensus is that what could have been an ordinary recession became a nightmarish depression because of errors made by Central Banks, particularly in Austria and in the US.

In the Spring of 1931, the Kredit Anstalt, Austria's largest bank, was on the verge of collapse. But when the government came to the rescue with freshly printed domestic currency, it created a capital flight out of the country because of fear of a repeat of the hyper-inflation similar to what happened after World War I, still fresh in people's memory. Austria pleaded for help from its neighbors and the newly formed BIS. Help came too little, too late.

Meanwhile, the Federal Reserve in the US was trying to defend the gold standard at any cost, at the expense of the real economy. President Herbert Hoover took as priority to balance the budget instead of re-launching the economy by deficit spending. Everybody believed that short-term pain was necessary to repair the damage of past excesses.

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There is a consensus among economists that we couldn't make the same mistakes now as in the 1930s. However, we may be making new ones with the same effects.

When Japan tries to re-launch its stalled economy with deficit spending, the international credit agencies downgrade its outstanding debt, making it too onerous to continue such a policy.

When Thailand, Korea or Indonesia see their economy collapse, they are being told to *increase* interest rates in order to "restore credibility with the international financial markets", further increasing the depth of the Asian slump.

Meanwhile in Europe, governments have painted themselves into a corner similar to Herbert Hoover's, by the unfortunate timing of the need for budget orthodoxy while unemployment is skyhigh.

Are these not new ways to defend the monetary system at any cost, at the expense of the real economy?

Or to inflict short-term pain hoping to repair past excesses?

Are the International Agencies not helping too little, too late?

1930s Solutions

The interesting solutions which were implemented at that time include a now almost forgotten movement of "emergency currencies".

There was one overriding objective in all the 1930's complementary currency systems: ensuring that people had the medium of exchange necessary for their activities, to give each other work. Two means were used to attain that single objective:

- people compensated for the scarcity of the national currency by creating their own complementary currencies;

- In the more sophisticated implementations, they also built in an incentive to avoid hoarding of currency. This feature aimed at counteracting the tendency for people who had any money, to hoard it out of fear of the future, thereby worsening the crunch for everybody else. (This same problem has now been observed in Japan in the late 1990s).

Compensating for the Scarcity of National Currency

Unemployed people don't earn money. If enough of your clients are unemployed, your business also fails, increasing the number of unemployed further, which brings down even bigger businesses, and so on. This is the snow-ball effect that was happening throughout the Western World as the shocks of the crash of the 1920's were being absorbed.

"When someone knows he is going to be hanged in a fortnight, it concentrates his mind wonderfully." Suddenly people realized that, after all, money is only "an agreement within a community to use something - almost anything - as a means of payment." So they agreed to accept pieces of paper issued locally, metal tokens, or whatever else they could settle on. Among the more exotic outcomes of this creative brain storm of the 1930's I found

Pictures of rabbit tail, shell and wooden ring currencies

- rabbit tails used in Olney, Texas (issued by the local Chamber of Commerce in 1936) - it apparently also had a desired side-effect of reducing an excess of jackrabbits in the area
- sea shells marked with the seal of Harter Drug Company in Pismo Beach, CA (issued March 8, 1933)[36]
- the wooden discs engraved with "In God we Trust" manufactured by the Cochrane Lumber Company as medium of exchange for Petaluma, CA (1933).

[36] Part of the Smithsonian Institution collection in Washington D.C.

Circulation Incentive

Once the currency was created, the next problem was ensuring that people did not hoard it. Every time someone hoards currency, by definition its lack of circulation deprives other people in the community of being able to perform transactions. The more sophisticated forms of complementary currency of the 1930's included a circulation incentive feature recommended by the Argentinean-German business man and economist Silvio Gesell (see sidebar). We will talk more about Gesell's ideas later [38] At this point, let us limit ourselves to the "stamp scrip" mechanism he recommended. The core idea was to encourage people to circulate the money through an anti-hoarding fee (technically called "demurrage", a word dating back to the railroads' practice of

> ***Silvio Gesell** (1862-1930)**: Prophet, Crank, or just Unlucky?***
>
> Silvio Gesell was born on March 17, 1862 as the seventh of nine children in Rhenish Prussia from a Walloon mother and German father. He emigrated to Argentina in 1887 where he became a successful businessman. He left his businesses to his brother and returned to Europe to settle on a farm in Switzerland. He did what Keynes called "the two most delightful occupations open to those who do not have to earn a living, authorship and experimental farming." In 1911, he moved to an agricultural cooperative near Berlin, founded by Franz Oppenheimer (1864-1934) whose ideas later shaped the Kibbutz movement in Palestine.
>
> His business experience with highly unstable currency in Argentina had convinced him that the key to socially responsible capitalism is money and land reform. In 1891 he described the role of velocity of money as a decisive factor in determining the level of prices, preparing the ground for Irving Fisher's celebrated work of the 1920's. At the end of the war of 1918, he published a prophetic warning in the Berlin newspaper *Zeitung am Mittag* "In spite of the sacred promise of the nations to reject war for ever more, in spite of the cry of the masses 'Never again war!' In the face if all hopes for a better future, I must state the following: If the present monetary system - the interest-driven economy - is maintained I dare to predict even today that it will not take 25 years before we are faced with another even more terrible war. As in former times, attempts will be made to annex foreign territory and for this purpose arms will be manufactured with the justification that this at least provides work for the unemployed. Wild revolutionary movements will form among the discontented masses and the poisonous plant of extreme nationalism will flourish. There will no longer be any mutual understanding between nations and in the end this can only lead to war."
>
> In 1919 he was named Finance Minister in the government of Gustav Landauer, in the *Rätterrepublik* of Bavaria, but Landauer was brutally murdered within a week by a right-wing paramilitary group, and Gesell was arrested. Immediately thereafter, hard-line Marxists took over in Bavaria, and arrested Gesell again to court-marshaled him for high treason. Even after his acquittal, he had become *persona non grata* to the Swiss and could not return to his farm. He died in 1930, just before his 68th birthday. His passing was pointedly ignored in the German Press.
>
> ***
>
> His monetary theories on "Free Economics" have often been summarily dismissed by the Right and the Left almost ever since, sometimes by misunderstanding, more often because these ideas were trying to "hold the center" in a Marxist-Capitalist ideological battle field. Indeed his work has been considered a "great reconciliation of individualism and collectivism." Many German economists consider that his work is coming back into relevance now.[37] Two non-German Nobel laureates in economics , Maurice Allais and Lawrence Klein, have now joined the earlier praises by Keynes and Fisher on Gesell's contributions.

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[37] Among others, Prof Joachim Starbatty (Tübingen), Prof Oswald Hahn (Nürnberg), Prof. Hans C. Binswanger (St Gallen), Prof. Dietrich Suhr (Augsburg). Gesell's work in German includes 18 volumes Gesammte Werke (ed. Werner Onken). Only his main book was published in English under the title Natural Economic Order , but dates from 1958 (translated by Philip Pye). Among the noteworthy exceptions of the unfamiliarity with Gesell's work outside Germany, one could mention T. Cowen, R. Krosner, William Darrity and Mario Seccareccia all authors of recent publications about Gesell's work.

[38] see Chapter 8.

charging a fee for leaving a railroad car inactive). The back of each note had typically 12 cases (one for each month) where a stamp could be fixed. Any bill, to remain valid, had to have its stamps up to date. These stamps could be purchased with local currency at shops participating in the scheme.

Let us now see how this generic scheme was implemented in practice in three key countries: Germany, Austria and the US.

The German Wara System

By 1923 the German official currency situation had become totally hopeless. To get an idea, we can look at the exchange rate of the Weimar currency against the US dollar. Before World War I (1913) the value of one US dollar was 4.2 mark. By the end of the war, it had risen to 8. In 1921, it was worth 184, and a year later 7,350. In the summer of 1923, a United States Congressman, A.P. Andrew, dutifully reported that he had received 4 billion mark in exchange for 7 dollars, then paying 1.5 billion mark for a restaurant meal and leaving a 400-million-mark tip.[39]

The game stopped when, on the 18th of November 1923, one dollar bought *4.2 trillion* marks. By then, 92,844,720 trillion Marks were in circulation. [40] Postage stamps cost billions, paying for a loaf of bread required a wheelbarrow full of money. Daily wage negotiations preceded work, and salaries were paid twice per day and spent within the hour.

It is in this context that the "Wara" experiment came into being. The hero of the German "Wara" story is Dr. Hebecker, the owner of a coal mine in the small town of Schwanenkirchen. He gathered all of his workers and explained that they had a simple choice: either they accepted two-thirds of their wages in "Wara" backed by the coal they were extracting or he would have to close the mine. After a predictably lively exchange, they finally accepted the new currency when Hebecker arranged for vital food-stuffs to become available in Swanenkirchen which could be purchased with Wara.

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[39] Johnson, Paul Modern Times: The World from the Twenties to the Eighties (New York: Harper and Row, 1983) pg. 134-135.
[40] Detailed numbers are available in Whale, P.B. Joint-Stock Banking in Germany (London, 1930, 1968) pg. 210

The "Wara" is a compound name in German meaning "commodity money." The Wara was a piece of paper fully backed by the coal inventory, and - to cover the storage costs - it also had a small monthly stamp fee. This fee was a form of demurrage tax which ensured that the money would not be hoarded, but would circulate within the community.

Photograph of Wara bill
from Catalog

It saved not only Dr. Hebecker's coal mine and the whole town of Schwanenkirchen, but it started circulating in wider and wider areas. It became a center piece of the "Freiwirtschaft" ("Free Economy") movement, whose theoretical underpinnings came from Silvio Gesell's work. *Over 2,000 corporations* throughout Germany started to use this alternative currency. Although this currency, by definition, could not become inflationary (given that its value was tied to the value of coal), it was definitely considered much *too* successful by the Central bank. It exerted pressure on the Ministry of Finance so that it would decree in October 1931 that the Wara was illegal[41].

The next thing that transpired was that Hebecker's mine had to close, and people went back into the unemployment line. As it had become impossible for people to help themselves on a local level, there only remained one option: a strong centralized solution. In the Bierhallen of Bavaria, an obscure Austrian immigrant began having increasingly interested audiences when he delivered his fiery speeches.

His name was Adolf Hitler.

The following graph shows the direct correlation between the level of unemployment and the percent of seats captured by National-Socialism in Germany on the successive elections between 1924 and 1933. (Figure 5.1) By the way, this graph could also serve to illustrate one of the key steps in the "vicious circle of unemployment" -- the feeding of political extremism.

[41] Letters specific to this case include the letter from the Board of the Reichsbank (I 10513) to the Minister of Finance dated 8/8/1931 (Bundesbank Archiv R 31.01/15345, pg 145). A recent study including this case was performed by Million, Claude Nebenwärungen gegen Absatzstockung und Beschäftigungskrise" (Unpublished thesis at the Humbold University, Berlin April 9, 1998).

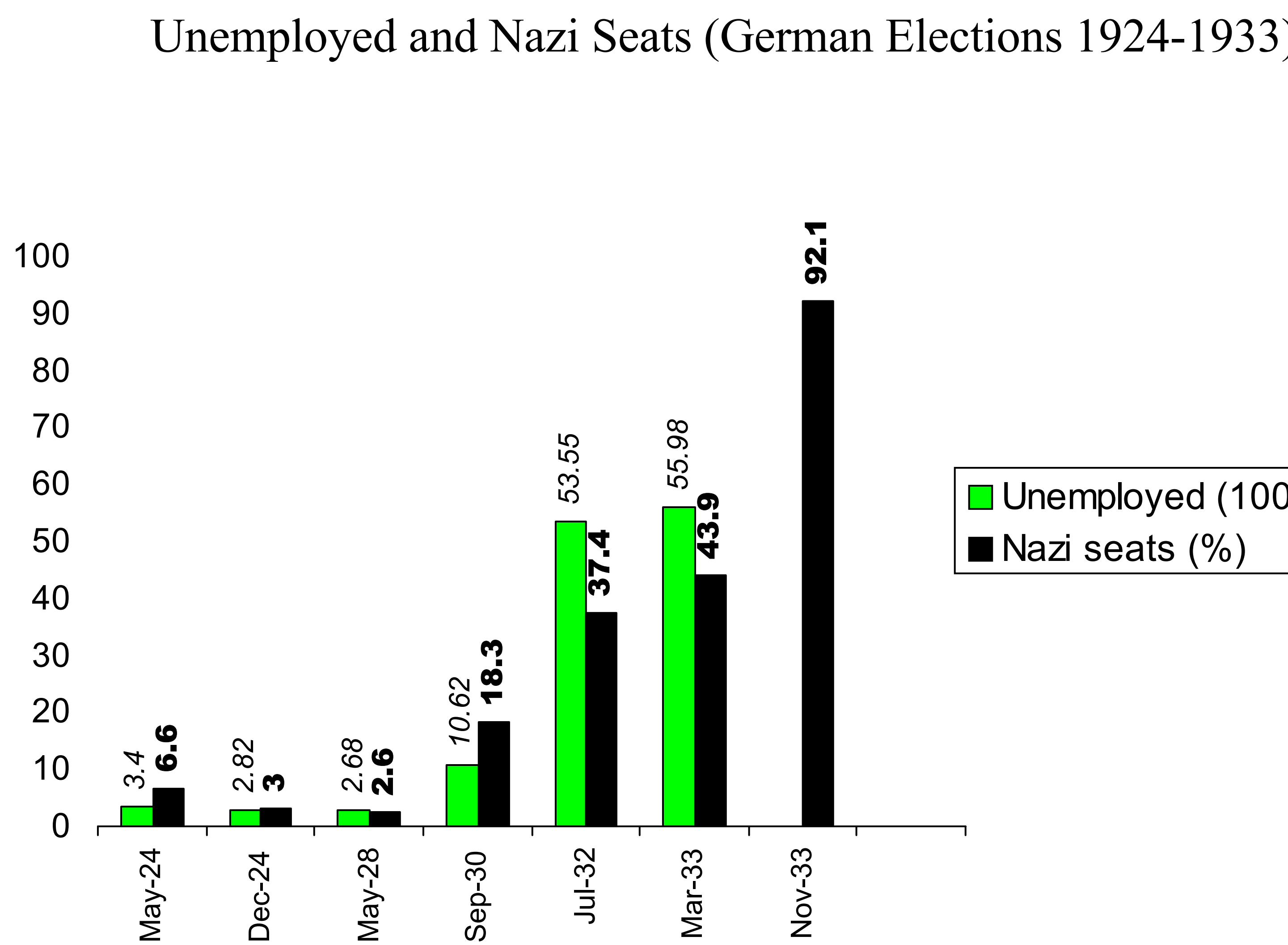

Figure 5.1 Relationship between Number of Unemployment and Percent of National-Socialist Seats [42]

Between 1924 and 1928, unemployment in Germany had been gradually dropping from 340,711 to 268,443. The percent of Nazi seats declined in parallel from 6.6% to 2.6%. In contrast, from 1930 to 1933, as unemployment shot up first to 1,061,570 and then to 5,598,855 the percent of seats

[42] The election of November 6, 1932 has consciously been left out of this graph because after the election of July 1932, Hitler had refused to become vice-chancellor under von Papen , forcing a new election only a few months later. As a consequence of this "All or Nothing" attitude, the National-Socialists lost 2 million votes in November 1932, but this backlash had clearly to do with Hitler's intransigence and not with unemployment fluctuations.

obtained by the National-Socialist Party climbed first to 18.3%,, then to 43.7%, to culminate with 92.1% by the end of that last year.

Wörgl Stamp Script

Meanwhile, elsewhere...

One of the best known applications of the stamp scrip idea was applied in the small town of Wörgl, Austria, with a population of about 4,500 people at the time. When Mr. Michael Untergugenbergen (1884-1936) was elected Mayor of Wörgl, the city had 500 jobless people and another 1,000 in the immediate vicinity. Furthermore, 200 families were absolutely penny-less. The mayor-with-the-long-name (as Professor Irving Fisher from Yale would call him) was also familiar with Silvio Gesell's work and decided to test it.

He had a long list of projects he wanted to accomplish (re-paving the streets, generalizing the water distribution system for the entire town, planting trees along the streets, and other needed repairs.) He had many people available who were willing and able to do all of those things, but he had only 40,000 Austrian Shillings in the bank, a pittance compared to what needed to be done. Note that this situation is much like the "Sufficiency of Money Game" we played earlier.

Instead of spending the 40,000 Shillings on starting the first of his long list of projects, he decided to put the money on deposit with a local savings bank as a guarantee for issuing Wörgl's own 40,000 Shilling's worth of stamp scrip.

Photograph of Wörgl Currency showing boxes and stamps. (recto -verso)

He then used the stamp scrip to pay for his first project. Because a stamp needed to be applied each month (at 1% of face value), everybody who was paid with the stamp scrip made sure he or she was spending it quickly, automatically providing work for others. When people had run out of ideas of what to spend their stamp scrip on, they even decided to pay their taxes, *early.*

Wörgl became the only town in Austria which managed to correct the extreme levels of unemployment prevailing everywhere. It is in this context that the "Wara" experiment came into being. The hero of the German "Wara" story is Dr. Hebecker, the owner of a coal mine in the small town of Schwanenkirchen. He managed to secure a loan. They had not only re-paved the streets and rebuilt the water system and all of the other projects on Mayor Untergugenberger's long list, they even built new houses, a ski jump, and a bridge with a proud plaque reminding us that "This bridge was built with our own Free Money." (see photographs) Six villages in the neighborhood copied the system, one of which built the municipal swimming pool with the proceeds. Even the French Prime Minister, Ëdouard Dalladier, made a special visit to see first hand the "miracle of Wörgl."

Photographs: Bridge Plaque, house construction, bridge building,

It is essential to understand that the bulk of this additional employment miracle was not due directly to the mayor's projects.(as would be the case, for example, in Roosevelt's contract work programs described below). The bulk of the work was provided by the circulation of the stamp scrip *after* the first people contracted by the mayor spent it. In fact, every one of the Shillings in stamp scrip created between 12 and 14 times more employment than the normal Shillings circulating in parallel! (See sidebar). The anti-hoarding device proved extremely effective as a spontaneous work-generating device.

Wörgl's demonstration was so successful that it was replicated, first in the neighbor city of Kitzbülh in January 1933. In June of that year, Unterguggenbergen addressed a meeting with representatives of 170 other towns and villages. Soon thereafter *200 townships in Austria wanted to copy it.* It was at that point that the Central Bank panicked and decided to assert its monopoly rights. The people sued the Central Bank, but lost in the judgment in November 1933. The case went all the way to the Austrian Supreme Court, but was lost again. After that it became a criminal offense in Austria to issue "emergency currency."

Wörgl's Experiment: Facts, Figures, and Fiction[43]

The experiment lasted from July 5, 1932 to November 21, 1933. The "work notes" were issued in three denominations valued respectively at 1, 5 and 10 Shillings. An average of only 5,500 Shillings of the stamp scrip were outstanding , but they circulated 416 times over the 13.5 months that the experiment was allowed to develop, producing 2,547,360 shillings of economic activity (equivalent to approximately 64 million of today's shillings or US $7.5 million). As a result, the investment in productive assets in Wörgl jumped by 219% over the previous year.

In addition, the monthly demurrage fee was used for a soup kitchen that fed 220 families.

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Mr. Unterguggenberger's political program would be considered today as middle-of-the-road social-democratic, as he vigorously campaigned "***agains****t both fascism and communism and their utopian economic theories, State capitalism, bureaucracy and lack of economic freedom; and* ***for*** *private initiative and economic freedom*."[44] Nevertheless, during the 1930s his experiment was branded by monetary authorities first as an *"unfug" ("craziness");* then as a communist idea; and after the war as a fascist one…

So Wörgl had to go back to 30 percent unemployment. In 1934, widespread social unrest exploded throughout Austria. During the crackdown against the civil disorder, all political parties to

[43] Sources: Wörgl's "Heimat Museum" and Schwartz, Fritz Das Experiment von Wörgl (Bern: Genossenschaft Verlag Freiwirtschaftlicher Schriften, 1951).
[44] Unterguggenbergers Programm January 8, 1934. (Wörgl Heimat Museum)

the left were outlawed. Michael Unterguggenbergen's party was identified with that group, so he was removed from office at that point. He died in 1936, still very much loved by the local population.

Does it sound familiar? Only a central authority savior can help people who are not allowed to help themselves locally. And as all economists will point out, when there is enough demand, supply always manifests in some way. Even if you have to import it.

During the Anschluss of 1938, a large percentage of the population of Austria welcomed Adolf Hitler as their economic and political savior.

The rest is well-known history...

US Depression Scrips

In the 1930's there were complementary currency issues all around the world; in the Baltics, in Bulgaria, Canada, Denmark, Ecuador, France (the "Valor" project), Italy, Mexico, the Netherlands, Romania, Spain, Sweden, Switzerland, even China and Finland. Not all of them were suppressed, either. As we shall see later, at least one of these systems survived the war and is successful to this day (the WIR system in Switzerland, described below).

But the "mother of all stamp scrip applications," and the place where the implementation came the closest to become official public policy was in the US.

The US, in fact, has a much longer history of issuing complementary currencies than is generally known. With clockwork regularity people under similar circumstances of duress seem spontaneously to reinvent the same solution. Complementary currencies sprung up during the Panic of 1837, the Civil War years, and the Panics of 1873, 1893 and particularly of 1907.

Professor Irving Fisher of Yale, author of a classic book on Interest Rates, and widely considered the most prominent American economist of his time, heard about the Wörgl experiment and published several articles about it in the US. He had concluded that: "Stamp Scrip is no panacea, but I believe it is the most efficient anti-depression remedy yet found."[45] At the time he was advising several

[45] Fisher, Irving "Stamped Scrip and the Depression" Fourth Letter to the Editor The New Republic Vol 74, April 12, 1933 pg 246.

communities on starting their own stamp scrip systems and was so inundated with additional requests that he decided to quickly publish a little monograph to meet the demand. [46]

He counseled against poor applications, such as the one implemented in 1932 by Charles J. Zylstra in Hawarden, Iowa, which erroneously applied Gesell's theory. In his case, the stamps were to be applied to the scrip *at each transaction,* instead of every month or every week, like it should be. This transaction-based taxation effectively was a sales tax, which in actuality *encouraged hoarding*, instead of discouraging it. It did not have the desired effects and users ended up hating it. As Zylstra was also a member of the Iowa House of Representatives, he had become a very active and prominent salesman for - unfortunately - the wrong approach. A resolution was passed in the 45th General Assembly of Iowa and approved by the Governor on February 25, 1933, authorizing counties to relieve the poor and unemployed people by issuing such stamp scrip. Sometimes this erroneous application has been described by detractors of the complementary currency systems as 'typical', while in reality it was an exception.

However, notwithstanding such mishaps, the majority of the applications in the US were correctly designed and successful. There even exists a remarkable catalog illustrated with several thousand examples of local scrip from every state in the Union.[47]

On February 18, 1933, the bill S. 5674 was introduced in the US Senate by Senator Bankhead of Alabama, and in the House of Representatives (under the name H.R. 14757) by congressman Pettingill of Indiana. The intent was to issue up to *one billion Dollars* worth of stamp scrip in one dollar denominations which would be redeemed by 52 weekly stamps of 2 cents, and which would be used as legal tender in the country. They would be distributed to all the states in proportion to their population. Both of these bills, after being read and discussed, were sent to the Committee on Banking and Currency for detailed evaluation.

In addition to the federal level, the "stamp scrip movement" as it became known, had already spread to 450 cities around the United States. For example, the City of St. Louis, Missouri, was in the process of issuing $100,000 worth of stamp money. Similarly, Oregon was planning to launch a $75 million stamp scrip issue.

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[46] Fisher, Irwing Stamp Scrip (New York: Adelphi Co., 1933)
[47] Mitchell, Ralph A. And Shafer, Neil Standard Catalog of Depression Scrip of the United States in the 1930's including Canada and Mexico (Iola, Wisconsin 54990, Krause Publications, 1984).

This sets the context for some key conversations between Professor Irving Fisher and Dean Acheson, then Undersecretary of the Treasury. Fisher was convinced that stamp scrip was *the* way out of the Depression, and brought his considerable knowledge to bear to prove this. He went on record with the statement that "The correct application of stamp scrip would solve the Depression crisis in the US in three weeks!"[48] Dean Acheson, a prudent man, decided to check out the whole concept with one of his own Economics Professors at Harvard, the well-respected Professor Russel Sprague. The answer came back that in his opinion this approach would indeed succeed in bringing America back to work out of the Depression. But it has also some political implications about decentralization that he may want to check with the President...

We know what President Roosevelt's reaction was from the speech he made a few weeks later. This is probably his most famous address, the one that coined the sentence "The only thing we need to fear is fear itself."[49] In it, he announced a series of impressive *centralized* new initiatives to counter the crisis: the expansion of the Reconstruction Finance Corporation, and a series of large-scale Federal government-managed work-creation projects. Basically, what became known as the New Deal, completed in 1934 by the first US Export- Import Bank. And he signed an executive decree that he would henceforth prohibit "emergency currencies." This was the code name for all of the complementary currencies already in existence, and all of those in preparation all around the country.

This is how the road was not taken in the US in the 1930's. It was a close call, but the *Zeitgeist* of the time seemed definitely in favor of spectacular centralized decisions for which political credit can more easily be claimed.

What is most interesting is that there is a growing consensus among economic historians that these centralized initiatives did not really get the US out of the Great Depression after all. They were better than nothing, and a lot of hard-working people produced a lot of valuable work under these programs. But the majority of economic historians agree today that -- for the US as for Germany -- the specter of the Great Depression was only vanquished by shifting the economy to prepare for World War II.

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[48] Schwartz, Fritz Das Experiment von Wörgl (Bern: Genossenschaft Verlag Freiwirtschaftlicher Schriften, 1951). Pg 14.

Some Political Lessons

The main lesson is that what appear to be boring technical decisions relating to banking and currency regulations are probably one of the biggest political time bombs around. We cannot prove that Hitler would not have been elected, or that the Anschluss would not have happened if the Wara and other stamp scrip grass-roots initiatives had been left to flourish. We cannot prove either that World War II would not have happened if the path not taken in the 1930's had been given a chance. There are obviously many other variables affecting such sweeping phenomena. History is not a laboratory experiment in which we can try again from scratch, and neatly change only one variable each time.

The historical record shows, however, that stamping out the popular grassroots initiatives where people tried to solve their problems on a local level helped push a sophisticated and educated society into violently scapegoating its minorities toward less and less democracy and, ultimately, toward war. That such suppressions have this power should not amaze us, given the cumulative nature of "the vicious circle of unemployment" we saw earlier in Figure 5.1 Mussolini had it right when he claimed that "fascism is not a doctrine, it is a response to the need for action."

The 1930's were one more demonstration of the "vicious circle of unemployment" connecting unemployment, violence, fear, political polarization and instability. The closing of the loop back to higher unemployment was only avoided by the biggest instability of them all: war.

Given this historical record, we can make the next three observations:

- Whoever makes the decision to stamp out complementary currency initiatives should also be held accountable for providing alternative solutions and finding the money to pay for the services that they render. It just won't do to block them on some technicality and leave the subsequent social and political mess and despair to take care of itself, because we know exactly where this leads. We have been there before.
- Impeding individuals or groups from solving their own problems at a local level automatically creates demand for a savior. Such a savior invariably appears, whether called the Central Government, the Führer, the Duce, Zhirinofski, Buchanan, Le Pen or Gianfredo Fini, or any one of their successors.

[49] Roosevel't speech of March 4, 1933.

- The record also shows that the only really effective way for large-scale centralized approaches to reduce serious structural unemployment is to prepare for war. Such economic reasons for war have been found not only for World War II, but for many other conflicts as well.

"Technical" Monetary Decisions and Political Consequences

Just to illustrate how monetary issues can have substantial political implications, let us follow the steps of one particular man who was instrumental in many key decisions in Germany at that time. His name was Hjalmar Schacht, and he became *two* times President of the Reichsbank (then the name for the German Central Bank); the first time from 1923 to 1930, and the second time more controversially as "Hitler's Magician"[50] from 1933 to January 1939. His story has some of the strange fate qualities that one finds mostly in Greek tragedies. It also has a touch of that quintessential Twentieth Century myth of Dr. Frankenstein -- a scientist creates a monster that ends up destroying everything around him, including his creator. The ironic twist here is that it is not an excess of monetary experimentation - but a lack of it - which may have been the problem.

Schacht was definitely *not intending* to favor the Nazi party in his decisions between 1923 and 1930, but those decisions did nevertheless exactly that. Later, when the consequences had become irreversible, he switched sides "to try to control Hitler", but ended up instead with the dubious distinction of spending time both in concentration camps *as well as* among the accused war criminals during the Nuremberg trials after the war.

Hitler's Magician or a Monetary Dr. Frankenstein?

The 1923 German currency crisis propelled to the monetary helm a man who, at the age of forty-six, had not yet ventured in the public field at all. On November 12, 1923 the government of Gustav Stresemann had named Schacht in a specially created position of "Currency Commissioner." On November 15, the first new Rentenmark currency notes were issued, and simultaneously an injunction was issued that henceforth all forms of "emergency currencies" ("*Notgeld")* would be prohibited. This regulation did not differentiate between some fly-by-night currencies, and the more sound systems such as the *Wara* which had a physical backing.

Havenstein, President of the Reichsbank, who just had refused to step down from his position as requested by Stresemann, solved Stresemann's dilemma by dying from a heart attack on November 20, 1923. Schacht got nominated as his successor because he was a monetary conservative with strong democratic credentials. His election was achieved only after Stresemann managed to obtain the support of the Social Democrats in a fierce battle against the candidature of Helfferich, suspicious because of his extreme right-wing connections.

[50] Title of the book about him by Norman Muhlen, published in New York in 1939.

A few months later (April 1, 1924), at the other end of the country and the social spectrum, Adolf Hitler was sent to the prison of Landsberg-am-Lech where he would write his book "*Mein Kampf".* He was , accused of "disturbing public order" in Bavaria. The countdown that would propel these two very different destinies together had begun.

Schacht proceeded to earn his reputation as a tough and orthodox Central Banker with the *leitmotiv* "No monetary experiments." This orthodoxy worked well initially, but ended up creating the rise in unemployment which played directly in the hands of the National Socialist Party. (In all fairness - even if it weakens my Frankenstein analogy - Schacht should not bear the bulk of the blame of Hitler's rise to power. The draconian reparation payments imposed on Germany by the Treaty of Versailles and the resulting hyperinflation had set up circumstances that had started the process years before Schacht got involved. However, it is also clear that Schacht's medicine did not reverse the political polarization process, but accelerated it until it reached an irreversible momentum.)

We need to reemphasize, however, that Schacht was definitely not on Hitler's political side when he was introducing these policies. For instance, when he decided to sever his connection to the Democratic Party in 1926, it was in protest against proposals for confiscating property belonging to the Hohenzollern royal family. And he ended up resigning from the Reichsbank in 1930 because of the unacceptable conditions imposed on Germany by the Young reparation program.

It is only during a boat trip to New York during that year that for the first time he read Adolf Hitler's *Mein Kampf*. He dismissed it as a "populist document" and as "an insult to the German language."[51]

However, in November 1932 Hitler's future propaganda minister Goebbels notes in his diary[52] that he has met Schacht, and that he thinks he can become useful He introduces Schacht to Hitler a few weeks later. By February 20, 1933, Goebbels had convinced Schacht that the next elections of March 1933 would be won by Hitler and that these elections would be "the last for certainly ten years, and probably for one hundred years." Schacht decided to cooperate with Hitler and would justify his switch later in Nuremberg as the only way he knew to try to control Hitler. According to David Marsh[53], the real reason may be simple personal ambition. Schacht's cooperation with Hitler may indeed have been a way to attempt to bring power back to himself . There is some independent evidence that his reasoning may have been valid. For example, in October 1934, William Dodd, the US ambassador in Berlin noted in his diary that he believed that "if Hitler was assassinated, Schacht would probably be called upon to head the German State."[54]

During these years Schacht supported unequivocally Hitler in public, but in private the relationship remained a lot more complex. For instance, the Chief of the SS made the revealing complaint that Schacht would always address Hitler merely as "*Herr Chancellor"* rather than "*Mein Führer*." And Hitler remarked himself that Schacht was the only person who allowed himself such liberties in address.[55]

However, instead of Schacht controlling Hitler, Hitler from 1936 onward gradually shifted all decision making power toward Hermann Goering. Schacht grew increasingly worried about the effects of the harassment of Jews and economically influential groups such as the Free-Masons on Germany's standing abroad. Schacht's main turning point in public was the famous *Kristalnacht* (November 9, 1938) when 250 synagogues were set on fire, nearly a hundred Jews died and 26,000 were sent to concentration camps. During that year's Christmas gathering of Reichsbank employees Schacht made public his position with the comment: "*Kristallnacht* was a cultural disgrace which should make every decent German red with shame."

But by then it was too late. David Marsh concludes that "Had Schacht been pushed by his later expressed doubts about the Nazis to resign from the Reichsbank in 1937, the course of history may have been different. Schacht was not, however, the only contemporary player - both in Germany and abroad - who failed to estimate the momentum pushing Hitler toward the brink."[56]

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[51] Schacht, Hjalmar Abrechnung mit Hitler (Hamburg, 1948) pg 29-32
[52] Goebbels, Joseph (ed. Hugh Trevor-Roper) The Goebbels Diary - The Last Days (London, 1978)
[53] Marsh, David The Bundesbank: The Bank that Rules Europe (London: Heineman , 1992) pg 108
[54] Dodd, William and Dodd, Martha Ambassadors Dodd's Diary 1933-38 (New York, 1941) pg 176
[55] Ritter, Gerhard Carl Goederer und die Deutsche Widerstandbewegung (Stuttgart, 1954)
[56] Marsh, David ibidem pg 110.

Schacht and most of his colleagues of the Directorate would be removed from the Reichsbank on January 20, 1939, after they refused to turn on the printing presses to finance Hitler's entry into war. His successor was Fuchs, a weak man who would always tell Hitler what he wanted to hear. Schacht would end up in a variety of concentration camps including Dachau after being involved in the July 20, 1944 plot to assassinate Hitler. He was liberated by the Americans in April 1945. He was tried in Nuremberg for his years of cooperation with Hitler. He died in 1970, a bitter man, at the age of 93.

The relevance of Schacht's story to complementary currencies is that sticking to being a competent Central Banker should not obscure the fact that that deep political consequences are attributable to such 'technical' monetary decisions.

Today's systems

Very few complementary currencies survived the turmoil and reconstruction processes of World War II and the booming postwar years. As we should expect, it is only when economic duress knocks on the door that suddenly, like mushrooms under the appropriate weather conditions, local systems reappear. Today's systems have, therefore, reappeared primarily where unemployment has become abnormally high for local reasons.

The following figure best summarizes the dramatic growth of all types of complementary currencies over the past decade. As recently as the 1980s, there were less than 100 such currency systems in the world. They have multiplied by a factor of twenty over the past decade.

Today's Situation
Number of Complementary Currency Systems Operational in 12 countries (1984-2003)

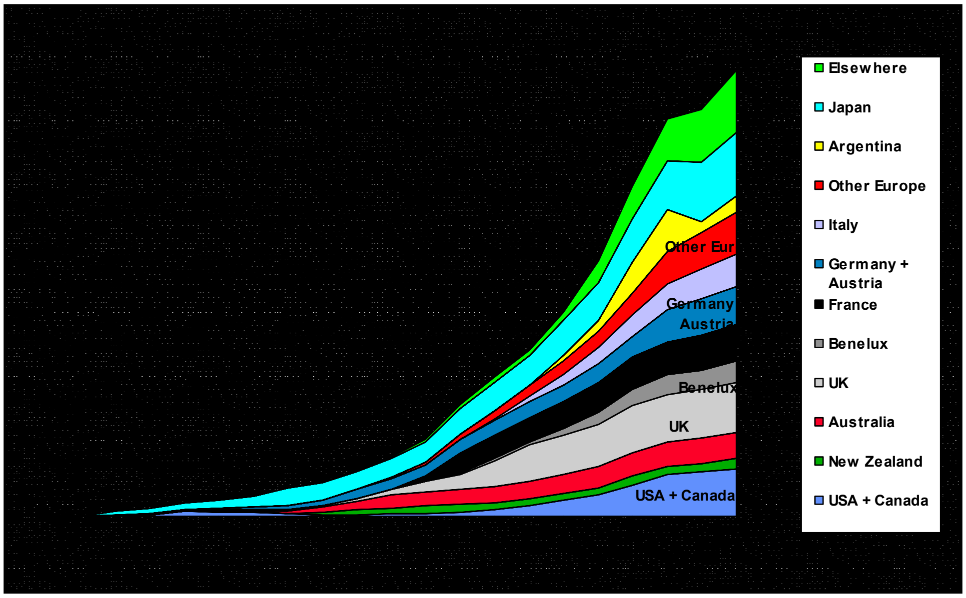

Figure 5.3 **Number of Community Currency Systems Operational in Twelve Countries 1984-2003**[57]

In the balance of this chapter and the next one we will have a look at the different types of such complementary currencies currently operational, and how they have been implemented in specific countries.

Clarifying Some Distinctions

Before describing some of the contemporary examples of non-traditional currencies, it is important to clarify some money distinctions. In some of the literature on new currencies, confusion has sometimes arisen between **barter** and **complementary currencies.** Occasionally, barter is erroneously described as any exchange that does not involve the "normal" national currency. By

[57] Sources come mostly from Internet websites, particularly http://transacton.net/money/community This site surveys data from a variety of other sites including a/o: Landsman Community Services, Canada; Letslink, UK; "Grains de Sel", France [http://altern.com/sel/letsww.htm]; Time Dollar Institute, Washington D.C. Germanic countries http://www.talent.ch/adr/letslist.htm] .Ithaca Hours {http:www.publiccom.com/web/ithacahours/

definition, **barter** is the exchange of goods or services without *any* form of currency. Barter requires as a prerequisite that the two people involved each have something that the other wants. In technical terms, the parties need to have "matching needs and resources". This is a strong constraint to the fluidity of exchanges. It is also why money was invented as a medium of exchange in the first place. In contrast, a **complementary currency** refers to an agreement within a community to accept a non-national currency as a means of payment. Such currencies 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 fulfil. It is also complementary because most participants use the normal national currency *and* a complementary currency in parallel. It is often the case that a single transaction includes partial payments in both currencies at the same time.

Another useful differentiation is the one between **fiat** money and **mutual credit currencies.**
A **fiat currency**, as we saw earlier (Chapter 2), is a currency which is created out of nothing by an authority. For instance, all our national currencies (including the Euro) are fiat currencies.
In contrast, **mutual credit currencies** are created by the participants themselves in a transaction as a simultaneous debit and credit. A more detailed description on how such currencies operate will be provided hereafter in the case of LETS or Time Dollars, both mutual credit currencies. Thomas Greco found references to such mutual credit systems back in colonial Massachusetts.[58] Mutual credit systems are simply a monetary formalization of the tradition of helping each other that is embedded in almost all traditional societies. In Southern France, for example, it used to be called *"aller aux aïdats*."
These distinctions will help in identifying the kinds of currency which encourage reciprocity and cooperation, instead of destroying them. *Complementary currencies,* particularly of the *mutual credit* variety, have proven effective in achieving that goal. This is so because, in contrast with fiat national currencies, they are compatible with a gift economy. They sometimes even spontaneously fuel a re-birth of a tradition of gift exchanges among neighbors.
Finally, it is notable that none of the currencies which have been most effective at fostering community bear interest. Remember, interest is one of the "obvious" features of our familiar national money systems. It is also the hidden mechanism which was shown to generate competition instead of cooperation among participants ("The Eleventh Round" of Chapter 2).

LETS

By far, the most frequent complementary currency system currently operating in the world is the Local Exchange Trading System (LETS). It was re-invented in the early 1980's by Michael Linton in British Colombia (Canada).[59]

Canadian Prototypes

In 1983, Michael Linton and David Weston had implemented in Vancouver, Canada, a very simple but effective way to stretch the remaining scarce dollars circulating in high-unemployment communities. He incorporated a local non-profit corporation which is basically a mutual credit company, whose only indispensable asset was a personal computer. It is a membership organization, and a small entrance fee is paid to cover the set-up costs.

Just after this pilot episode, in the Northeastern provinces of Canada, years of over-fishing created a sudden necessity for fishing quotas to try to replenish the stocks. Just as suddenly, this brought to a halt entire fishing communities in the Maritime Provinces. Previously prosperous villages suddenly found themselves at the brink of disaster with 30-40% unemployment levels. The LETS model became a way to address this crisis.

So let us follow Amy who has decided to participate in her local LETS-Happyville system after she had paid her $5 set-up fee and $10 yearly membership fee.[60] Amy's account begins at zero balances. She sees from the (electronic and/or physical) notice-board that Sarah is offering automobile tune-ups, and John is the local dentist participating in the system. She also sees that Harold wants fresh-baked whole wheat bread. Amy sees potential trades in all of these. She negotiates with Sarah for her car tune-up for 30 "green dollars" plus $20 in cash for the new spark plugs. She gets her dental treatment from John for 50 "green dollars" and $10 in cash. She agrees to provide Harold with two breads this week for 10 "green dollars" and finds out that he also would like some of the vegetables from her garden for another 30 "green dollars."

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[59] Linton, Michael and Greco, Thomas "The Local Employment and Trading System" in Whole Earth Review Number 55, Summer 1987. Also for one the best technical overviews on LETS and other alternative systems see Greco, Thomas New Money for Healthy Communities (Thomas Greco, Publisher. POBox 42663, Tucson AR 85733).

The cash component is handled by all the participants directly as in any ordinary sales transaction, and only the "green dollars" component is called in by phone or by a note to the LETS system. At the end, Amy ends up obtaining what she needs for only $30 in cash for a total value of $110 of goods and services. She also ends up still owing another 40 "green dollars" to the community as a whole. The "green dollars" are not a scarce currency; as soon as people agree on a trade the currency is available. Neither do they pitch the participants against each other the way the normal dollar does (remember the `Eleventh Round`?). In most systems, there is no interest charge on any balances. Finally, the information about any individual's outstanding debit or credit balance is available to all participants so that there is a self-policing process to avoid abuse of the system by attempts to accumulate unreasonable debits.

Canada has 25 to 30 operating LETS systems at this point.

However, LETS became much bigger in the UK than in its country of origin.. From there it spread to a dozen other countries, primarily in regions where high unemployment levels prevailed.

UK

In 1994, Alan Wheatley, a Reuter journalist, filed this report:

> *"Manchester, England,*
>
> Warminster has its 'link'. Tomes its 'acorn' and Manchester its 'bobbin'.
>
> They are the currencies of some of the 200 or so local exchanges trading schemes (LETS) that have sprung up in Britain, most of them in the past 18 months, as self-help initiatives to revive economic activity in communities ravaged by recession. "I think they've become so popular because cash is short. That's the common story everywhere," says Siobhan Harpur, who works at the National Museum for Labor History in Manchester, and who helped set up a scheme in that city of 3 million people...
>
> "At least 40 percent of the economy of a city like Manchester should be in complementary currency by the year 2000" Harpur says. "No one should have to work in sterling terms more than 20 hours a week at the most."
>
> The local council is encouraging the scheme by extending a 10,000 Pound loan to be repaid in bobbins, which the council will use to buy child-minding and other services...
>
> Ed Mayo, director of the New Economics Foundation, an "alternative economics" think tank, says complementary currency schemes could be particularly useful in greasing the wheels of commerce

[60] adapted from Greco, Thomas Ibid. pg. 92.

between cash-strapped small businesses. 'They have tight credit lines and could well benefit from local schemes to trade between themselves' says Mayo, who is founding a LETS in Greenwich, southeast London. [...]

It would be wrong to dismiss complementary currencies as the passing fad of misty-eyed do-gooders. Some people get involved because they're interested in recreating a community,' Mayo says. 'But for others it's not a hobby, it's a livelihood. It gives them access to goods and services they might not otherwise be able to get hold of.'.

Geoff Mulgan, director of the Demos think tank, believes parallel economies such as LETS could provide jobs for many people without the skills or competence to participate in what he calls the money-based 'first economy'. 'Moreover, they may turn out to fit better within the culture of much of modern Britain, and in particular the culture of the young unemployed, than traditional solutions,' Mulgan says."

A group of dedicated volunteers were behind the remarkable community information campaign which made the UK a fertile ground for complementary currency efforts. In 1991, a group centered around LETSLINK UK including Liz Shephard and Harry Turner, were key agents in this process. Several innovations or expansions on the original model resulted from all this, such as: the increased importance of the "Directory of Wants and Offers," or new software developments. The Schumacher Award for "triumph of individual effort" formally recognized all these efforts. The role of the New Economics Foundation, a spin-off from The Other Economic Summit (TOES) meetings should also be mentioned. Some specialized LETS project have also been successfully developed around healthcare issues (see sidebar).

A Mental Healthcare Project based on LETS

The "Creative Living Centre" in Manchester is a charitable company that supports people with emotional distress (patients with light mental health problems). It is based in a building owned by a health trust which was part of a huge mental hospital, and is operated in cooperation with National MIND (a mental health charity) and a group of people with personal experience of their own distress. A LETSystem is one of the mechanisms that provides networking support.

About 100 people come in for support on a weekly basis. The Creative Living LETS has 150 members. There is a LETS shop, people can hire rooms and space for LETS and there are regular markets and auctions. There is a community gardening project which has an allotment and uses the garden around the center, a coffee shop, and regular arts classes are offered through LETS. Complementary therapists offer some of their services through LETS, and there is the usual mix of services and goods sold trough the system entirely independently of the center.

As a result of this experiment, a national LETS and Mental Health Conference was held in Manchester which attracted hundreds of people. There are now a number of health trusts in the UK incorporating a LETSystem into their designs for "Healthy Living Centres" as part of a government initiative for bringing communities together around health issues.

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The Minister for Social Security of the Conservative government, Mr. Peter Baldwin, announced on December 8, 1993, that "*LETS type credits will not be counted as income for the purpose of the Social Security income test. LETS type schemes are a useful community initiative which should not be artificially discouraged by Social Security arrangements. I believe there is a strong case for giving Social Security clients the flexibility to participate in such schemes. In particular, LETS type schemes represent a form of activity that assists our clients in keeping in contact with labor market skills and habits, and indeed, in contact with the labor market itself.*"

As of 1998, there are well over 400 LETS systems operational in the UK, a 100% growth since Alan Wheatley's report in 1994. It should be noted, however, that impressive as this may all seem, in the big picture of economic things, the whole process remains still marginal. An estimated 30,000 people are involved with a total annual turnover of only UK Pounds 2.2 Million.[61]

Another indication of the depth of the social experimentation with money that is going on in the UK is that there are now 500 credit unions (community created pools of 'normal' national currency to lend among members) operational in the country.[62]

New Zealand

David James, a Quaker from Whangarei, and Vivian Hutchinson, a community activist from New Plymouth, both in New Zealand, participated in a Quaker-organized alternative economics workshop in London in 1984.

Back home, the new Lange-Douglas government had commenced the most significant restructuring of economic policies since the Great Depression. These new policies, combined with a global economic slowdown, created high unemployment throughout New Zealand, particularly in the rural/forestry areas.

By 1986, both the ideas and the social stress had reached critical mass, and David James launched the first New Zealand "green dollar" scheme: the Whangarei Exchange and Barter System (WEBS for short). He further conducted workshops to disseminate the idea. A government official, Hilary Allison, Regional Manager of the Alternative Employment Program of the Department of Internal

[61] Mowat, Iain: The growing trend toward Local Exchange Trading Systems within Industrialised Nations (Honours Disertation at the Department of Economics of the University of Strathclyde, 1997-98) pg 3-4.
[62] New Economics Foundation: Community Works cited in New Economics Magazine #41, Spring 1997

Affairs in Dunedin, decided to fund an information tour of Otago and Southland in 1988. The national Television news broadcast (TVNZ) covered the success story of Whangarei, and the process spread like wildfire across the country.

We know more about the New Zealand situation than many others thanks to the first Ph.D. Thesis about LETS systems, by Mark Jackson.[63] He started off with an inventory of 61 green dollar systems as listed in the Spring 1993 issue of the New Zealand Green Dollar Quarterly. He found 47 of these systems functioning well, and 14 moribund or deceased.

The backgrounds of the “movers and shakers” who were instrumental in getting green dollar systems successful in New Zealand provide an insight into the amazing variety of people who are pioneering complementary currency technologies. They include government officials, Christian fundamentalists, hippies, mainstream political reformers, as well as ordinary citizens.

One of the most intriguing findings of this survey is the involvement of women in the process is also increasing with time, independently of their social or political background. In fact, in communities using the green dollar, women have often the highest participation rate.

Last but not least, there have been substantial debates and evaluations in New Zealand within the Internal Revenue Department (IRD, the tax authority) and the Department of Social Welfare (DSW, the administrator of the welfare and unemployment support system).

The tax authority in New Zealand has followed a general ruling that whenever systematic professional services are involved (e.g. a plumber doing a plumbing job), the green dollar income should be accounted for as regular income, taxes are therefore due, and remain payable in NZ$. However, when the activity is outside of the normal activity (e.g. that same plumber repairing a car and getting paid in green dollars), then no taxes are due.

The Department of Social Welfare has been directly instrumental in funding a number of start-up projects in LETS systems However, different regional offices of the DSW within the country had different interpretations about whether green income was making the participant ineligible for regular unemployment benefits or not. Finally, after an evaluation of the social effects in the field,

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[63] Jackson, Mark Helping Ourselves: New Zealand’s Green Dollar Exchanges (Bendigo: La Trobe University POBox 199 Bendigo 3550 Victoria Australia, 1996). It is further interesting that this thesis was a result of the ANZAC Fellowship Program, a reciprocal arrangement between Australia and New Zealand for people who have shown distinction in their fields and could benefit from research in the other country. Mark Jackson can also be contacted via e-mail on 240102@basil.bendigo.latrobe.edu.au

the DSW ruled not to consider the green dollars as a reason to exclude people from the normal support system because:

(a) The green dollar systems help the beneficiaries to maintain and acquire skills;

(b) Participation helps maintain motivation to search for 'normal' jobs; and

(c) These systems are often a springboard to self-employment.

Australia

Currently, Australia has the highest ratio of complementary currency systems per capita. Although the government has not been as actively involved as in New Zealand in supporting LETS systems, the latest estimate is that there are over 200 systems operational today. In 1991 there were 45 systems in Australia, and only three years later four times that amount. One of the best known is the Blue Mountains LETS near Sidney, with well over 1,000 members.

Among the reasons for this blossoming is that, after evaluating the results in the field, provincial governments, such as the one of Western Australia, help launch new LETS systems.

The French case: "Le Grain de Sel"

We could go on and on, covering every single Northern European country: Scandinavia, Germany, the Low Countries, and make an inventory of what is happening in each.

Instead we will take the story of only one more country, France, because it illustrates the explosive nature of the multiplication process of complementary currencies when the unemployment conditions are serious enough. As the French unemployment level shot up in the early 1990s, Claude Freysonnet, an organic farming specialist from Ariège, decided to take an initiative. In 1993, she heard about complementary currencies from Phillip Forrer, a Dutch friend. And *presto*, here comes "le Grain de Sel" (literally the "grain of salt," which in French, as in English, has the double meaning of something not taken quite seriously). SEL is also the acronym for "*Système d'Échange Local*" (*Local Exchange System*).

Today, Claude sells her production of organic cheeses to the 300 participants of her "Grain de Sel" network of Ariège. She has spent her own "Grain de Sel" income on fruit trees for her garden, bicycles for the kids, even the car she drives. In addition to the one-to-one deals typically found in

LETS systems, every fortnight in Ariège, there is a new tradition: a very special big party in the market place of Poix. People come to trade not only their cheeses, fruits and cakes, as in the normal market days, but also hours of plumbing, hair cuts, sailing or English lessons. Only "Grains de Sel" accepted!

Many people from all around the area come just "because it is more fun this way."

Two and a half years later, Claude Freysonnet has imitators in France. A lot of imitators. There are now over 200 "Sel" networks in France. Some have decided to call their unit of account "*la Truffe*" or "*Le Coquillage*"(the *truffle*, the *seashell*).

In addition, there are some 350 centers specializing exclusively in trading knowledge and information ("*Réseaux d'Échange de Savoir*"). That concept has been around in neighboring countries as well. A typical example is what happens in "*La Maison de l'Amitié*" ("*the house of friendships*") in the sleepy town of Beauraing, Belgium. Their little brochure has as cover title "I teach you, you teach me, we learn together This process has spawned a book on how to start your own information exchange center.[64]

According to a survey made in December 1994 by the CREDOC (*Centre de Recherche pour l'Étude et l'Observation des Conditions de vie*) one out of four French are now performing exchanges not using the official French Franc: 2% of all the French now trade mostly that way, 10% regularly, another 13% occasionally.

Even in France, there are professional party poopers. The "Fisc" (the tax authority) is interested in its cut on exchanges over 20,000 FF per year, or if the exchange occurs in the normal professional activity of the person (as we saw in the UK).

WIR

"WIR"[65] is a Swiss example of a complementary currency run by and for a community of individuals and small business people. It is interesting for three reasons. First, it is the oldest continuous system in the modern Western world. It was founded in 1934 by 16 members in Zurich,

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[64] Suffrin, Claire and Marc-Heber Appel aux Intelligences. The testimonies from the use of the system come from Maison de l'Amitié, Allée du Nondeux, 5570 Beauraing, Belgium.

[65] Sources: 50 ans de Cercle Economique WIR (publication in honor of the 50th anniversary of WIR) October 1984
Une entreprise de services et une banque pour le developpement economique des PME publication by WIR
Also E. Simon Enstehung und Entwicklung des Schweizerischen Wirtschaftringes (Formation and Development of the Swiss Business Circle); and P. Enz Wie und warum der WIR enststand (why and how the WIR was formed).

and has continuously grown in both number of participants and volume of business for over sixty years. Second, it illustrates that complementary currencies make sense, even in the most conservative and hard - nosed capitalist country with one of the highest standards of living in the world. Finally, it is a system which has grown to a respectable size. In 1994, on the sixtieth anniversary of the WIR system annual volume reached 2.5 *billion Swiss Francs (* i.e., over two billion dollars). Its 80,000 members live now in all areas of the country. It operates in four languages and owns its own bank building, as well as six impressive regional offices.

"WIR" is an abbreviation for "*Wirtschaftsring-Genossenschaft*" (roughly translated as "*Economic Mutual Support Circle"*), and also means the pronoun "*We*" in German.

Two of its key founding members - Werner Zimmerman and Paul Enz - were true visionaries for their time (see sidebar on next page.)

There are two ways by which a member can obtain WIR: either by selling a good or service to someone else in the circle, or by obtaining a 'WIR" credit from the coordinating center. In other words, the WIR is a hybrid of mutual credit (whenever trading occurs by selling a good directly) and fiat currency (whenever a loan is made from the Center). Such credit has a very low interest rate (1.75% per annum). In practice, these credits are often guaranteed by real estate or another asset. As is true with all currencies, trust remains the key. The WIR credits are automatically removed from circulation whenever a member reimburses a loan to the center.

WIR's Founders

In 1933, Werner Zimmerman published a paper about "The liberation of women" where he demanded "monetary compensation for the work of mothers." Note that this is Switzerland, the last European country to have given the right to vote to women (1971). In 1935 he gave speeches on "Dying forests and rivers - the issue of living water," and in 1972 published "Nuclear Energy - Blessing or Curse?."

Paul Enz founded in 1931 a horticulture foundation whose mission was the "care and promotion of the physical and ethical recovery of the whole nation." He also managed a chain of natural food stores in Zurich.

Zimmerman and Enz had studied the theories of Silvio Gesell and decided to copy two "circles" which had applied these theories in Scandinavia and the Baltics during the early 1930's.

In their own words: "What do we want? - Satisfying work, fair earnings and secured prosperity. This is what all working people strive for economically, and what they could and should all have...."[66] The name "WIR" was explained by Zimmerman in opposition to "Ich"(German for "I") because together as a community, we better protect the interests of the individual."[67]

The start was rocky, given that the creation of this complementary currency was heavily attacked by the press, the banks, and the more traditional business circles. But they managed to raise some 140,000 SF of working capital, mostly in amounts of 50 and 100 SF. Given that this was in the middle of the Great Depression, this was an extraordinary achievement in its own right.
The WIR system was started with about 2,950 members in 1935, and its low point was in 1945, when the turmoil of the war had brought membership down to only 624 members. After the war, it gradually picked up year after year, reaching 12,567 members in 1960, 24,227 members by 1980 and over 80,000 members now. Most members are middle-class individuals and small- to medium-sized businesses. The volume of business has grown remarkably. Total turnover was still only 196 million SF in 1973, reached close to 1 billion SF by 1980, and is valued now at over 2.5 billion SF. The volume of credits outstanding in 1994 was the equivalent of about 1 billion SF.

The value of the WIR is pegged to the Swiss Franc (i.e., 1 WIR = 1 Swiss Franc), but all payments have to be made in WIR. (In technical parlance, the unit of account is the Swiss Franc and the means of payment the WIR.)

Members report that they participate in WIR exchanges for the following reasons:

- it is a very cost effective way of doing business: commission on sales limited at 0.6% on deals completed in WIR;

[66] WIR-Nachrichten (Wir News) Number 1, November 1934.
[67] Speech by Werner Zimmerman, Fall Conference of 1954.

- it gives access to a pre-screened and loyal client base; credit is much cheaper than in national currency;
- there are other services provided (direct-mail, publicity among members, publications, etc.);
- it offers a buffer against exterior shock, such as a sudden increase in the national currency interest rate, or other economic disasters;
- it is a way for small businesses to gain some of the advantages to which otherwise only big businesses have access.

WIR, therefore, provides an idea of the economic potential of a complementary currency system when it can reach full maturity.

Regional Development Currencies

One of the most promising applications of complementary currencies - also one of its most recent ones - is its application to regional economic development. It is also an important sign that some significant governmental authorities are starting to take complementary currencies seriously. Two case studies will be presented briefly here: an initiative by the European Commission and perhaps the most impressive one of all by the Japanese Ministry of International Trade and Industry (MITI).

Europe

The European Commission (DG V) has been co-financing four pilot regional projects, jointly defined as the "Barataria" projects (described in the website www.barataria.org). The four prototypes were purposely chosen to be of a different nature from each other. They are:

- the Scottish SOCS (www.socsystem.org.uk)
- the ROMA project in the Connaght area, Ireland.
- Amstelnet in Amsterdam, the Netherlands (email info@amstelnet.nl)
- and "3er Sector" project organized by the non-profit La Kalle in the Vallecas district of Madrid, Spain.

The first two were developed in the country side, while the two latter are for city dwellers. The Irish system is a paper scrip currency, while the three others are purely electronic money. In all cases, the normal taxes are due on local currency transactions, including Value Added Taxes (VAT). A few words about each gives a flavor of the range of these applications.

1. The Scottish experiment is an adaptation of the WIR precedent adapted for regional development purposes. It was launched by Ruth Anderson of the Scottish Rural Forum in 1997. Membership to the SOCSystem is restricted to organizations, such as businesses, governmental agencies and non-profit organizations. Each member has an interest-free (unsecured) line of credit, which is determined on the basis of the number of trading partners and volumes. Additional credit can be granted when the organization can provide some guarantees (secured line credit). The SOCS directory is maintained on a website as well as in periodic print form. Payments are made using credit checks, but other instruments are planned in the future. Membership dues are payable quarterly, and cover administrative overhead and a reserve account for bad debts.
2. The Irish experiment is operational in what is called the "Black Triangle" in Ireland, the region bordering County Mayo and Roscommon, where economic decline continued even during the 1990s boom period in the rest of the country. It is an area with low density and vanishing population (about 25,000 people) spread over many small farm units. The unit of account is the ROMA which has been issued since January 1999, and it operates like a LETS system but with fairly strict credit rules. This particular project involves Richard Douthwaite, author of *Short Circuit: Strenghtening Local Economies for Security in an Unstable World*[68]. This book develops convincingly the reasons for specific regions to create their own currency systems.
3. Amstelnet is an initiative of Aktie Strohalm Foundation in Amsterdam, the Netherlands. The area covered is one of the highest population densities in the world. It is a business network for companies, professionals and organizations and uses the "*Amstelnet Eenheden"* (AE "Amstelnet Units" equivalent to one guilder) as unit of account and means of payment. The non-profit Aktie Strohalm is specifically focused on research and implementation of non-traditional currency systems. It has been active for a decade, counts in 1999 a full time staff of 47 people, and has been pioneering several other projects in Holland.
4. Finally, the Spanish "La Kalle" project is implemented in Vallecas, near Madrid. With 200,000 inhabitants, it is one of the largest working class neighborhoods in the country. The unit of account is the BICS equivalent to 100 pesetas. Interest-free loans are available automatically up to the equivalent of 50,000 pesetas, and after approval from a credit committee for larger amounts. One operating rule is that at least 25% of any trade has to involve BICS units.

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[68] Douthwaite, Richard Short CircuitL Strenghtening Local Economies for Security in an Unstable World (Dublin:: A resurgence Book, 1996)

Japan

Toshiharu Kato, the Director of Service Industries Division of the Ministry of International Trade and Industry (MITI) - the powerful coordination mechanism between government and the corporate world in Japan - completed personally a three year study in the US of two types of high-tech development models: the "Route 128 model" and the "Silicon Valley model". The former is named after the development of high-tech companies around a nucleus of large corporations (e.g. Raytheon and Hewlett Packard) and universities (e.g. MIT) in the Boston Area; the latter refers to the proliferation of small high-tech computer companies and Venture Capital firms which conglomerated southeast of San Francisco near Stanford University. He concluded that the "Silicon Valley Wave", based on high density contacts among hundreds of small corporations (without large companies at the center), is the wave of the future for Japan. More impressive still, he pushed his regional development strategy to its logical end by introducing a new concept of regional currencies,

Japan's Next Development Model and "Eco-Money"
(Extracts from Memoranda by Tashiharu Kato, MITI)[69]

"Using the Silicon Valley as a model, *Japan needs to actively create diversity in its different regions in order to promote a new socio-economic system based on the local community*… In Japan's movement toward an information society, it must make innovations in its economy and community to take the lead as a front-runner type society. Japan should implement a concrete action plan to carry out its shift to be a part of the next generation information society. This involves a coordination of business, government, education and community, to work together as one organization. Individual regions will develop their own unique industrial clusters, resulting in specific economic bases with entrepreneurial environments and creative communities…

When we look to academia, modern economics does not provide us with any clear-cut solutions. The traditional world view of economics deduces the total movement of the economy from a simple sum of component elements. With this world view, it is impossible to analyze and understand the changes associated with economic shifts from one attractor to another attractor…

The true task of an economic policy is to shift the attractor at the core of the economic movement, and through this effort, to put the economy on the track of solving the problems. In order to do this, we must not only note the decisions made by individuals and corporations who are the constituents of society at the macro-level, we also need to look at the interactions among these…

The Japanese type new development model will be based on regions, and *it has the characteristic of a dual structure of regional economy and community."*[70]

***

One of the key tools he introduces to create the dynamic of simultaneously activating a regional economy and a community is "eco-money".

"Eco-money is money for the 21st century which can be used in the exchange of varied and 'soft' forms of information covering such areas as the environment, social welfare, communities and culture... Eco-money is always used in the direct exchange of items and services so that it does not accelerate any money creation functions. Therefore there is no risk of inflation, creating a bubble economy, or the shrinking of money circulation after the burst of the bubble. .. People can use standard money in parallel with 'eco-money' and make efficient use of one or the other to create the most appropriate life-style…The ultimate objective in implementing eco-money is to nurture trust among people, so that a sense of community can be cultivated. "[71]

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[69] Based on personal discussions with Kato-san in Tokyo in September 1999, and on extracts from several documents including Kato, Toshiharu Silicon Valley Model (NTT Books, in Japanese); and the website http:/kingfisher.kuis.kyoto-u.ac.jp/ecomoney/reports/topicsinJapan.html.

[70] Kato, Toshiharu "Silicon Valley Wave: Toward the Creation of the Next Generation Information Society" *italics added.*

[71] Kato, Toshiharu "Eco-Money: Its Significance and Possibilities in the 21st Century"

which he called "eco-money" (sidebar). He created the Eco Money Network as a non-profit organization which provides local regions with the support needed to introduce local and regional currencies. From four initial pilot projects the experiment has now expanded to ten different implementation models. They vary from a small village (Yamada in the Toyama prefecture), to a town of 16,000 people (Kuriyama in Hokkaido) and whole prefectures (equivalent to a county, specifically Shizuoka, Chiba and Shiga). Some include LETS type currencies, others "Fureai Kippu" (described in the next chapter) and still other integrate various services into a single smartcard system. An impressive list of 27 different types of activities are being integrated by using eco-money, including welfare, education, disaster prevention, environmental protection, services promoting the understanding of cultural assets, as well as a series of "civil businesses" such as enterprises providing natural foods for children with allergies to chemicals, production of soap made from recycled cooking oil, and at-home care for the sick and elderly.

As of October 1999, besides the ten pilot projects, another thirty are in an "assessment" stage (designing the specifications of their own systems, while evaluating the results of the ten pilots projects).

These projects are being combined with the generalization of the use of smart cards by the Ministry of Health and Welfare. Already one of the smartcard pilots in Yokosuka combine health insurance data with eco-money and normal national currency useable for everyday shopping. Plans for a "Next Generation Info-Community Network" expand that concept to include medical care support and allergies data, safety confirmation systems for natural disasters, various licenses, public ID, Internet as well as physical mall shopping, phone card and discount services for long-distance phone calls, gasoline and other services available at discount rates, public transport and travel mileage services. Whether all these functions will end up on a single smartcard or not, the main point remains valid: Japan is determined to be a leader in regional development strategies for the Information Age, and is using the appropriate tool of complementary currencies to achieve it.

Some big corporations are already getting involved in this eco-money process: for instance Nippon Telegraph and Telephone (NTT) is developing software systems in the context of its "Daily Life Welfare Information Network" project (which includes city governance, local businesses and non-profits, healthcare and welfare information, job training and volunteer information, etc.) Similarly, Oracle Japan has expressed interest in getting involved as well.

Financing Small Businesses

To further illustrate the flexibility of these local-currency concepts, here are examples of small businesses which have obtained financing through the use of complementary currencies. In this category fall the Berkshire experiments in Massachusetts or the "Dining Dinero" issued by Cafe de la Paz in Berkeley.

None of the following complementary currencies were designed to be used as a general means of payment, but rather as an alternative financing mechanism for specific predetermined purposes, supported by the community.

The four main Berkshire experiments are Deli Dollars, Berkshire Farm Preserve Notes, Monterey General Store Scrip and Knitter Restaurant scrip.[72] Normal banking sources were not interested in providing such financing . All these experiments follow a similar pattern which we will illustrate with the Farm Preserve Notes. The Farm Preserve Notes - officially sanctioned by the Massachusetts State Agricultural Department - provide working capital for some small farmers who sell them against normal US dollars. These certificates are redeemable at the next crop against merchandise and produce. A discount is built into the price of this future produce to provide an incentive to the buyer to purchase now what will become available only months from now. This approach was very well received by the clients, and enabled the farmer to raise working capital immediately, while ensuring him in advance the sale of part of his crop with reliable clients in the future.

The Cafe de la Paz in Berkeley, CA, needed capital for refurbishing a community meeting room on the side of the main restaurant. It approached several banks with a request for financing. When none were forthcoming, the Cafe de la Paz issued a scrip which was redeemable against lunches and dinners in the future. The accounting works as follows: a client buys for $100 the value of 120 "Dining Dinero" (so the client gets a 20% discount on the corresponding meals). As the cost of goods sold is about $40, Cafe de la Paz still makes a $60 profit on the transaction. It also obtains the

[72] See Washington Post Monday, May 20, 1991, pg. A1. Also The Berkshire Record April 26, 1991 pg. B1. All four experiments and several others are also analyzed in Greco, Thomas New Money for Healthy Communities (Tucson, AR. Thomas Greco Publisher, POBox 42663, AR 85733)

financing needed, and in addition has increased the loyalty of its clients. It is a win-win for everybody.

Local Loyalty Schemes

The last examples of a special type of complementary currency aiming at creating local employment are local loyalty schemes. It is now generally recognized that small businesses are the major source of future employment. However, the development of superstores and American-style shopping malls has continued unabated over the past decades. For instance, in the UK, superstores have increased their share of retail space from 12.9% to 23% over the ten years to 1996. In some areas 70% of the grocery market is accounted by just two superchains.[73] The net result: systematic death of the local retail outlets, and the transformation of dowtown areas into ghost towns with high unemployment and crime rates. This doesn't have to remain necessarily so, as was proven by a butcher's initiative in a small English town (sidebar). The possibilities for local loyalty schemes for revitalizing local downtowns, stimulating small business employment, competing more effectively against the larger distribution systems, and improving the quality of life generally, has only been barely tapped so far. With the growth of Internet businesses, expected to become one fifth of European company sales in five years time[75], the importance for groups of smaller businesses to learn the sophisticated use of complementary currencies can only increase over time.

Saving Downtown: the case of Leominster[74]

The local butcher Graham Hurley decided to fight back against the superstores in his small town of Leominster when 17% of local downtown shops had already closed down. .Local unemployment had risen in parallel to 8.1%.
He invented a scheme which he called "Loyal to Leominster". Local businesses paid 20 UK Pounds to join, and received in exchange "Loyal to Leominster" cards and posters. Within a year, 63 businesses had joined and 8,000 loyalty cards had been issued (which later grew further to 15,000 cards). Temporary "Visitor to Leominster" cards were also issued to attract tourist trade. Some businesses reported as much as a 30% increase in sales. The scheme was so successful, that several new businesses moved to town to take advantage of it.
Leominster's idea was copied the next year by nearby Midsummer Norton and Radstock, which attracted 8,000 customers and an increase in turnover of 15%. Bath followed the same year with a "Bath Shopping Card". Newcastle, Wilmslow, New Milton, Havant and Harlesden all did the same thing somewhat later.

The full potential of these schemes has definitely not been exploited so far, as there has been no effort to collect the names and addresses of members or to cross-market additional services to them.

[73] Marketing May 9, 1996.
[74] Worthington, Steve & Halsworth, Alan "Leominster card boosts town fortune" Retail Week June 28, 1996.
[75] Boyle, David E-Money (Special Report of the Financial Times, December 1999).

Conclusion: Complementary Currencies as "Early Prototypes".

In conclusion, complementary currencies make sense socially, economically and from a business viewpoint. It should also be noted that *many of the current complementary currency systems should be considered in a stage where aeronautical engineering was when the Wright Brothers made their first flying attempts*. The remarkable feat about the Wright Brothers was that their contraption did fly at all. But it was nevertheless their and their "crazy" colleagues pragmatic demonstrations that ultimately has made possible that we and our most perishable products can fly routinely around the world. It is also significant that the New York Times mentioned for the first time the Wright Brothers achievement *only four years after the fact,* and then only because the President of the United States was present at such a demonstration. The actual understanding of the theory of why these contraptions could fly had to wait for many more years after that.

There should be no shame attached to considering most current versions of complementary currencies as "early prototypes". Practically all of today's systems remain obviously marginal in terms of total economic volume for instance. Just like the Wright Brothers, they are typically being ignored, or when noticed sometimes ridiculed, by mainstream academic or media pundits. Most are still waiting to be recognized by some "Presidential witness" to be taken seriously. But what matters for us here is that they have already proven that they can "fly", that they actually produce the intended effects at the scale for which they were designed.

Specifically, the following findings have already been demonstrated in practice:

1. Complementary currencies make possible transactions and exchanges that otherwise would not occur. This means in practice that more economic activity - implying more work and wealth - is being created than would otherwise be the case. In two separate field surveys, in one case about a third and in the other more than half of the people interviewed actually started to provide their services *as a direct result* of the availability of the complementary currencies in their community.[76]

[76] The first was a study performed by the Maryland Institute for Aging on Time Dollar systems, and the second a field survey performed on the BREAD system, a very young local currency system operating in Berkeley, California. In this latter case 22 people out of a total of 40 interviewed in this system reported they had started the specific services they supplied to the network as a direct result of the creation of BREAD. It should be emphasized that the sample of the first survey is more reliable than the second. The 40 people interviewed for the BREAD study remains too small to be statistically significant. More hard data on the social and micro-economic impact of complementary currencies would clearly be useful…See Kobayashi, Kazunori Community Currency (Unpublished Senior Thesis, May 9, 1999). Berkeley Bread Case Study.

2. This additional work and wealth is being generated where it is most needed without the need for taxes, government bureaucracy and without creating the risk of inflation in the mainstream economy (this last point will be developed in detail in Chapter 7). Note that this is *additional* wealth, not a result of redistribution of existing wealth. Therefore, complementary currencies are *not* a new form of welfare. Welfare is a compulsory transfer resources from the rich to the poor via taxes. In contrast, the use of complementary currencies is voluntary for everyone; it creates new wealth, and - once started - becomes a completely self-funding mechanism to address many social problems without requiring permanent subsidies or taxes.
3. Local complementary currencies make not only social sense, but also business sense. They enable locally owned businesses to better compete against the large chain distribution systems. Small local businesses can more easily accept the local currency, because they can spend them in the community -- as is the case for small farmers who can use local labor at harvest time. In contrast, large chains have suppliers that are typically far away, and are therefore less likely to be interested in local currency participation. In this sense, complementary currencies can also contribute to making the local economy more self-reliant, a modest but healthy counterweight to the relentless globalisation of the economy. This creates a more level economic playing field for smaller merchants, which ensures better competition and therefore overall benefits to the consumers and society.
4. The WIR case and the one of Curitiba show that complementary currency systems can be scaled up to quite substantial volumes - in the first case to 80,000 members and several billion dollars of trade, and in the latter to a city of several million people in Third World conditions.

Nevertheless, I do *not* claim that complementary currencies are a sufficient solution to the complex problems of unemployment in the Information Age. I specifically do not claim that more traditional forms of employment encouragement should not be implemented. My point is simply that complementary currencies are potentially an important tool - that so far often has been overlooked - and that they deserve more attention than has been the case so far. Given the foreseeable scale of the employment problem during the transition period of the next decades, can we afford to ignore tools that have shown that they can be effective?

Chapter 6: Community Currencies

Money symbolized the loving giving and taking among individuals which gave men the feeling of having emotional roots in their community [...]
Money originated as a symbol of man's soul."
William S. Desmonde[77]

"The economy of the future is based on relationships rather than possession."
John Perry Barlow

"What idealists have dreamt about,
What hippies used to talk about,
Now people are just doing."
Anonymous

[77] Desmonde, William H. Magic, Myth and Money (New York: The Free Press, 1962) pg. 25

This chapter addresses another "money question" of our Time Compacting Machine; the one relating to the Age Wave; i.e. *"how will society provide the elderly with the money to match their longevity?"* (see sidebar on US Congress' own retirement plan)

But it also goes beyond that specific topic by tackling the broader issue of community breakdown. Problems in elderly and child care, education, reduction of criminality, and improvement of the general quality of life are all symptoms of the same phenomenon of community crises. Community breakdown has become a universal pattern all over the modern world. Although it is usually not perceived that this trend relates to money, this chapter will show that both the cause of the problem and its solution can be found in money systems.

Is this why Age Wave economic problems are not urgent issues on Capitol Hill?

US Senators and Congressmen don't pay in to Social Security, and, of course, they don't collect from it. The reason is that they have a special retirement plan that they voted for themselves many years ago. For all practical purposes, it works like this: when they retire, they continue to draw their same pay, until they die, except that it may be increased from time to time, by cost of living adjustments. For instance, former Senator Bradley, and his wife, may be expected to draw $7,900,000, with Mrs.Bradley drawing $275,000 during the last year of her life. This is calculated on an average life span for each. This would be well and good, except that they paid nothing in on any kind of retirement, and neither does any other Senator or Congressman. This fine retirement comes right out of the General Fund - tax money - while US citizens who pay for it all, draw an average of $1000/month from Social Security.

How long would it take for Capitol Hill to address the Age Wave issues, if they had personally to live with the same Social Security as the rest of the population?

Community Breakdown

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The Bench in Muir Woods

It was at the end of that very wet "El Niño" Spring of 1998. A grey-haired man was sunning on the only bench

[78] Bennet, William: Index of Leading Cultural Indicators (New York: Touchstone Book, 1994)
[79]Source: National Center for Health Statistics. The largest proportional increase is among the well-educated, affluent white upper class (see US Department of Commerce, Bureau of the Census, Current Population Reports, Population Characteristics, Series P-20 No. 470 " Fertility of American Women: 1992)
[80] Statistics from the National Center for Health Statistics. The real numbers are worse because of the social stigma attached to suicide; many of them tend to be reported as accidents. See Zigler,`Edward Children, Developmental and

in Muir Woods where the afternoon sun-rays break through the Redwood canopy. While he was musing about which of these trees were already there when the Roman Empire fell, a young man came to sit next to him. The young man looked somewhat familiar, but the old man couldn't remember from where he knew him. His outfit seemed a bit out of place; he was wearing a very clean but old- fashioned business suit.

"Nice day" said the old man to engage the conversation.

"A great day for me! I just got my first job offer. School is finally over!" replied the young man excitedly.

"Congratulations"

"Assistant Statistician at Travelers Insurance" was the proud response.

"That's great, a good company. Actually, that's where I started myself over thirty years ago ."

"Well, the best part is that now I can marry my sweetheart, buy my first car...."

"Don't tell me your fiancee's name is Sherry?" interrupted the old man.

"Yes, why?"

The old man now knew why he recognized the young man. He continued in an absent-minded voice.

"You'll have two kids. Not a bad life, all things considered. Don't worry about that Third World War; that Korean thing will just fizzle out. Communism won't take over the world.

Just about everybody will be able to afford a car."

The young man stared back with a puzzled look, but the monologue just rolled on.

"What's really strange is that it's all the things you take completely for granted that will turn out to be problems. Obvious things, like *children having two parents.*

Photograph of the bench in Muir Woods surrounded by giant trees

In 1997, over ninety percent of the American families own at least one car. The US GNP in constant dollars tripled in thirty years, and GNP per capita more than doubled

For the first time, over 51% of all US children live now in single-parent families[78].

Between 1960 and 1991 there was a 400% increase in births to

Social Issues (1988). Also Hollinger, P.C. "Adolescent Suicide: an epidemiological study of recent trends" American Journal of Psychiatry(1978)

81 Source Forbes as quoted by Netview (Global Business Network News) Volume 7, Number 1 (Winter 1996)pg. 16. According to Wilhelm Reich, Secretary of Labor of the Clinton Administration, 68% of all high school graduates expect to be worse off than their parents at similar ages. Democratic Leadership Council (Washington DC, November 22, 1994)

82 Source for SAT scores: The College Board. Statistic on literary and other basic skills: Children's Defense Fund, 1993. Source for weapon carrying statistic: survey by US Department of Education, cited by Mary Jordan "Summit searches for Cease-fire in violence enveloping children" The Washington Post July 22, 1993.

83 Time June 29, 1998 pg 25

84 FBI statistics. Violent crime is defined as murders, rapes, robberies and aggravated assaults. Lifetime Likelihood of Victimization statistic by US Department of Justice, Bureau of Justice Statistics, May 1988.

85 Ibid. US Department of Justice, Bureau of Justice Statistics.

Or even being born into a family.

unwed mothers. In the ten major cities in the US, more than half of all births are illegitimate.[79]

Or, once born, wanting to live at all.

The rate at which teenagers are taking their own lives has tripled in the past thirty years, and is now the second leading cause of death among adolescents. For every successful suicide there are fifty to one hundred unsuccessful attempts.[80] *Between 1995 and 1996, the number of new Prozac prescriptions for 13- to 18-year-olds grew from 148,000 to 217,000. For the 6- to 12-years-old age bracket, the jump is even more stunning: from 51,000 to 203,000.*

Or the American dream in which children are supposed to be better off than their parents.

A 30-year-old man in 1970 earned 15% more than his dad did at that age. Today's 30-year-old man can expect to bring in 25% less than his dad did.[81].

That schools are for learning.

Scholastic Aptitude Test (SAT) scores dropped by 73 points between 1960 and 1993. Almost half of all Americans between the ages of 21 and 25 lack basic literary skills, are unable to balance a check book, or read a map. Twenty percent of high school students now feel the need to carry a firearm, knife, razor, club or some other weapon on a regular basis[82] *In 1995, 1.36 million children grades 6 to 12 took a gun to school. By 1998, metal detectors and new security measures made this drop to 1 million.*[83]

That it is safe to walk to your downtown grocery store."

While US population increased only 41% since 1960, the number of violent crimes rose 550%, so that eight Americans out of every ten can expect to be victims of a violent crime at least once in their lives[84].

The young man tried to intervene; the only word that he could articulate was an indecisive "But..."

Ninety-nine percent of Americans will be victims of theft at least once in their lives. Eighty-seven percent will have property stolen three or more times[85].

Forget about not locking your house or car. You'll end up putting a sign saying "No Radio" on your car window to try to discourage the thieves.

The young man stood up to leave, visibly disturbed.

"Do you know who I am?" asked the old man.

"Yes, but I don't believe you" answered the young man as he walked away from his older Self.

The old man's shoulders sank in deeper as he watched the young man disappear at the curve on the path, without looking back.

Around the world, in rich and poor countries alike, the structure of family life is undergoing accelerated and fundamental changes. "The idea that the family is a stable and cohesive unit ... is a myth. The reality is that trends like unwed motherhood, rising divorce rates, smaller households, and the feminization of poverty are not unique to America, but are occurring worldwide," a recent study demonstrates.[86] In fact, the US is in the middle range among developed countries in the percentage of births to unwed mothers. Iceland, Sweden, Denmark, France and Britain are all in a worse position in both increases over time and total percentages as of 1992. Only Japan has remained virtually unchanged over the last 30 years.[87]

The world over, we can hear the same complaint. "Things aren't the way they used to be. We used to have a better sense of community." What is referred to may be different in each culture, but the *trend* is identical. Its consequences are also similar, including vandalism against common property and criminality, particularly among the younger generation.

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Definition of "Family" by an Australian Aboriginal Elder[88]

"You white people don't understand what we mean by "family." When a baby is born, it is given to its "mothers." That means, the mother who bore it, all her sisters and all her aunties. They are responsible for nurturing and loving it. It is also given to all its "fathers." That means its natural father, all his brothers and all his uncles. They are responsible for caring for it and teaching it. Everyone else in the tribe is brother and sister. *We think it is really primitive for a baby to have only one mother and one father!"* Many children, in Western society, don't even have two parents! Imagine the love, support, and caring they would experience with a whole group of mothers and fathers!

Are we, indeed, "primitive" in our assumption that two parents are enough for one child? Maybe "existential angst" is only part of Western culture - not necessarily a given of the human condition.

The more "developed" the country, the more this trend has advanced (sidebar).. For instance, Northern Europe and the US , the extended family was considered the norm during the 19th century. By the 1950's, the nuclear family was standard.. Today, the median of social identity in the US has already moved from the nuclear family to the single parent family as 51% of all US children now live in a single parent home.[89] What is even more enigmatic is that the same movement - although with different starting points - seems to happen almost everywhere.

In Italy, for instance, a few decades ago "*la famiglia*" still referred to the extended family: sixty or eighty people, including, of course, several generations, such as grandparents, parents, uncles,

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[86] Bruce, Judith Families in Focus (New York, Population Council Publications, 1995) also reviewed in an article by Tamar Lewin "The decay of families is global, study says" New York Times (May 31, 1995, pg. A5)
[87] Source: "The family: home sweet home" The Economist September 9th 1995, pg. 26
[88] Schaef, Anne Wilson Native Wisdom for White Minds: Daily Reflections Inspired by the Native Peoples of the World (New York: One World Balantine Books, 1995) January 6 reflection. *Italics in orginal text*
[89] Bennet, William Index of Leading Cultural Indicators (New York: Touchstone, 1994).

cousins, nieces, and in-laws. Now, the norm has moved toward the nuclear family, particularly in the more "modern" Northern half of the country. Other Southern European and Latin American cultures are following an identical trend.

From the Hopi in Arizona to the Kogi in Colombia and the Chipibo in the Peruvian Amazon, we hear the comment that the young are losing their connection to the tribe and identifying themselves with smaller subgroups, or even just blood relatives, "as white people do."

All of this is usually written off - depending on the age and political persuasion of the observer - as the price of progress or the signs of decadence of society. But could community breakdown be a contagious disease? Is it thinkable that they all may have a deeper common cause? What could it be?

To understand how community is lost, we must find out how it is created.
Of all the disciplines which have studied community, the most useful insights come from anthropology. Anthropologists discovered that community does not necessarily arise out of proximity (otherwise, a 200-apartment high-rise in a big city would produce community). Similarly, common language, religion, culture, even blood, doesn't automatically produce community either. All of these factors can clearly play a secondary support role in the process, but the key ingredient is something else.
Anthropologists have found that ***community is based on reciprocity in gift exchanges.***[90]

[90] The anthropological literature on communities and the "gift economies" that underlies them is vast. The best works on the topic of gift economies are the classic by Mauss, Marcel "Essai sur le Don: Forme et raison de l'échange dans les sociétés archaiques" in L'Année Sociologique I (1923-24) pgs. 30-186; and in English Hyde, Lewis The Gift: Imagination and the Erotic Life of Property. New York: Vintage Books 1983 (3d edition). See also Levi-Strauss, Claude. The Elementary structures of Kinship translated by James Bell et al. (Boston: Beacon Press, 1969)

Community building and the "gift economy"

If community were a fabric, what would be the individual thread? Or, to use another metaphor, if community were a molecule, what would be its constitutive atom, the smallest act that creates it?

If you need a box of nails, you go to the hardware store and buy one. There is no expectation by either you or the hardware clerk that any future reciprocity is involved. This is one of the main reasons why monetary exchanges are so efficient. Each transaction stands on its own. However, no community has been created either.

> ***Gift Economy as an Evolutionary Social Survival Skill***
> Gift giving was developed as the earliest form of social security according to anthropologist Stanley Ambrose of the University of Illinois at Urbana-Champaign. "Social ties, established by gift giving, would have helped people in tough times, particularly important in a difficult or unpredictable environment." The San hunter-gatherers from Kenya establish such networks still today by exchanging ostrich egg-shell beads, the gift helping secure future favors. The age of this egg-shell bead gift tradition was established when Dr. Ambrose discovered in a rock shelter called Enkapune Ya Muto in Kenya's rift the remains of an ostrich-eggshell bead workshop with over 600 shell fragments and completed beads, dating back 40,000 years!
> "It gave the African people an advantage over Neanderthals, who may not have had such symbolic mechanism for social solidarity."[91]

Now, assume that you go out for another box of nails, and that your neighbor sits on his porch. When you tell him you are going to buy a box of nails, he responds, "Oh, I just bought six boxes the other day. Here is one, it will save you the trip to the hardware store." He also refuses your offer to pay. What has happened?

From a purely material viewpoint, in both cases you end up with your box of nails. But an anthropologist would point out that in the second case, something else has happened as well.

When you meet that neighbor again, you will definitely say hello. And if ever on a Saturday night he rings your door bell because he forgot to buy some butter, you will most likely share some of yours. The gift of the box of nails is a community-building transaction. Its purchase is not.

A commercial transaction is a closed system, the nails versus the money. In contrast, a gift is an open system. It leaves an imbalance in the transaction that some possible future transaction completes. The gift process creates something that the monetary exchange does not. A new thread has been woven into the community fabric.

The evidence for this relationship between gifts and community is overwhelming. It has been documented all over the world and at all times.

[91] "Venerable Beads" in *Discover: The World of Science* (October 1998) pg 26-28.

Some examples

It is funny that I needed anthropologists to discover the relationship between gifts and community building. The etymology of the word "community" could have informed about that link even more explicitly, without all that hard field work by anthropologists. "Community" derives from the two Latin roots:

cum, meaning *together, among each other*

and *munus,* meaning *the gift*, or the corresponding verb *munere, to give.*

Hence "*community*" = "*to give among each other*."
Could it have been more obvious?

I will now provide three sets of examples of communities where this unwritten rule - that community is built over time as a result of gift exchanges - has been operational since time immemorial. They are:

1. Monastic Communities (Christian and Buddhist);
2. Traditional Communities (Africa, Pacific Islands, North America);
3. Modern Society (Western world, Japan and the Scientific Community).

You can read all of them or just your favorite examples. They all validate the same principle.

1. Monastic Communities

Benedictus of Aniane introduced some Celtic concepts into early Christianity and founded the Benedictine Order during the fifth century A.D., the first Christian monastic organization in the West. Its rule book specifies that *communitas* is created by the way one organizes the economic necessities of these monasteries. The monks should be self-sufficient as a group, but totally inter-dependent among each other. Everybody has a function - from abbot to doorkeeper, from cook to scribe, from iron-monger to cheese maker. But each job has to be contributed as a gift to the community. Monasteries knew all about monetary exchanges, as these regularly occurred between the monastery and the rest of the world. It is, therefore, quite intentional and significant that the Benedictine rule explicitly *prohibits any monetary exchanges among members of the community*.

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Non-Christian monastic traditions have gone even further in the same direction, without the benefit of knowing the Latin etymology of the word "community."
For instance, "According to the Buddhist monastic code, monks and nuns are not allowed to accept money or even to engage in barter or trade with lay people. *They live entirely in an economy of gifts.* Lay supporters provide gifts of material requisites for the monastery, while the monastics provide their supporters with the gift of teaching. Ideally this is an exchange that comes from the heart, something totally voluntary. The returns in this economy do not depend on the material value of the object given but in the purity of heart of the donor or the recipient."[92]

2. Traditional Societies

In the early 1950's Lorna Marshall and her husband lived with a band of Bushmen in South Africa. As a farewell gift, they gave to each of the women in the band a bracelet of cowrie shells. Cowries are not available in the area, and had been bought in New York. Marshall wondered what that may do to future archeological research in the area.

When the Marshalls returned a year later, they were surprised to find none of the cowries in the original group. "They appeared, not as whole necklaces, but in ones and twos in other people's ornaments at the edges of the region."[93] The *gifts of the cowrie seashells had spread like water through the wider community.*

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While we often have a tendency to think of gift societies as primitive and dismiss them in a condescending way, some of these gift rituals are extraordinarily complex and sophisticated. In traditional societies, these *gift rituals are considered among the most important social activities within the community.* Their very complexity is a sign of the significance given to them.

[92] Bhikku, Thanissaro: "The Economy of Gifts: An American monk looks at the traditional Buddhist economy" Tricycle: The Buddhist Review (Winter 1996) pg. 56. *Italics added.*
[93] Marshall, Lorna. "Sharing, Talking, and Giving: Relief of Social Tensions Among the !Kung Bushmen" in Africa (Journal of the International African Institute) 31, number 3 (July 1961) pg. 231-249

For example, the Tikopia who live in an archipelago in Polynesia engage in no less than twenty-four different kinds of ritual gift exchanges to complete one single wedding.[94] The whole process requires several days.

In another island group, the Massim archipelago, otherwise totally useless ornaments called the Kula are always moving as ceremonial gifts from one island to the other. Specific "soulava" necklaces - worn only by women - circulate in a counterclockwise sequence among the islands, while the male "mwali" armshells circulate among the men in clockwise sequence[95].

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The Northwestern American Indians had great meetings of all neighboring tribes to celebrate *"potlatch"* (literally *to nourish, to give*). Status was marked by the quality and quantity of objects given. We consider people famous because they have accumulated a lot of money, or because they bear the title "Her Royal Highness." In contrast, the Kwakiutl honorific titles characterize the *generosity of the giving* in which people have engaged: e.g., "Whose Property was Eaten in Feasts" or "For Whom Property Flows."[96]

3. Modern Societies and Scientific Communities

What is left of our Western world family communities still occurs around the Thanksgiving and Christmas and birthday reunions, and - as all retailers will tell you - around gift exchanges. Today's marriages - the ritual where two families formally join to create a single larger community - are still marked by the exchanges of gifts.

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Japan is the one developed country which has been bucking the trends in community breakdown. This is usually attributed to a mysterious peculiarity in the Japanese social structure or psyche. However, here too our universal key of gift exchanges is applicable. The Japanese tradition of *Butsu Butsu Kokan* refers to the reciprocal nature of gift exchanges, which explicitly *exclude* monetary exchanges. The name itself reflects that point, its literal translation being "*Object-Object-Exchange*." These gifts are a key ritual in practically all aspects of the Japanese culture. *Gifts are constantly*

[94] Raymond Firth needed a complex whole-page diagram to explain this twenty-four step process in his "Marriage Gifts among the Tikopia" in Primitive Polynesian Economy (London, 1939).
[95] Malinowski, Bronislaw. Argonauts of the Western Pacific. London: George Routledge & Sons, 1922

exchanged not only within the extended family, but between co-workers, esteemed individuals, social and work superiors, and elders. It takes often the form of sharing one's talents in art, calligraphy, culture, or other social graces. It is not the monetary value of the gift that matters; what counts is the intention, the quality of the personal touch.

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Even the most "modern" of all communities - the scientific community worldwide - is nurtured by the same unwritten rule. Indeed, scientists who give their ideas to the community receive recognition and status. In contrast, those who do it for the money, or who write only textbooks (a commercial type activity) have no recognition, or may even be scorned. "One reason why the publication of textbooks tends to be a despised form of scientific communication [is that] the textbook author appropriates community property for his personal profit."[97] In short, to the extent you want to belong to the scientific community, you can get credit for your ideas, on *the express condition you present them as gifts to the community;* i.e., do not get monetary fees for them.

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A contemporary German scientist, Almut Kowalski, has even developed a whole alternative theory based on gifts to explain how physical reality operates. Her claim is that from atoms to galaxies, from plants to organs in our own body, all exhibit processes which she describes as "*tuning in and gently giving*" as the core exchange mechanism. For instance, your kidneys are "tuning in" on what the rest of your organism needs, and "gently give" what they can for the benefit of the whole. Ken Wilber's *holon* theory points to a similar idea.[98]

How communities break down.

It should not come as a surprise that to unravel the fabric of a community you do the opposite of what helped create it in the first place. Therefore, I propose as a general rule that *communities break down whenever non-reciprocal monetary exchanges replace gift exchanges*.

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[96] Barnett, H. G. "The nature of Potlatch" in American Anthropologist Volume 40, number 3 (July-September 1938): pg. 349-358.
[97] Hagstrom, Warren O. The Scientific Community New York: Basic Books, 1965 pg. 22
[98] Wilber, Ken Sex, Ecology, Spirituality: The Spirit of Evolution (Boston & London: Shambala, 1995).

Let us revisit specific examples of community building described above, starting with the last one, the scientific community. They all show that community unravels every time exchanges involving the "normal" national currencies replace gifts.

Dr. Jonathan Kind, Professor of genetics at MIT, says, "In the past, one of the strengths of American bio-medical science was the freedom of exchange of materials, strains of organisms, and information....But now [that the universities are trying to make money from the commercial potential of recombinant DNA], if you sanction and institutionalize private gain and patenting of micro-organisms, then you don't send out your strains because you don't want them in the public sector. That's already happening now. People are no longer sharing their strains of bacteria and their results as freely as they did in the past."[99] The fabric of one corner of the scientific community has started unraveling.

The first significant contact with Northwestern American Indians was made by Captain Cook around the time of the American Revolution. Pelt traders moved in thereafter, and the Hudson Bay Company established its first outposts in the 1830's. All of these people were only interested in the furs, and otherwise left the Indians alone. Even decades *before* the missionaries arrived to try to change the "pagan" traditions of the indigenous people, some communities started to unravel because of their contact with the traders' commercial exchanges. Tribes that had replaced the gift exchanges within their community with monetary exchanges were those that fell apart within a generation.

This process has repeated itself all over the world whenever traditional societies start interacting commercially with the Western world. As soon as non-reciprocal monetary exchanges begin to occur within these traditional societies, their communities start breaking down. I have seen this happen firsthand in the 1970's in the Peruvian Amazon when the Peruvian national currency started circulating within some tribes.

In light of all of the above, we should consider community not as a state, but as a *process*. If it is not nourished by regular reciprocal exchanges, it will tend to decay or die. That is why I define **a community as a group of people who honor each other's gifts,** who can trust that their gifts will be reciprocated someday, in some way.

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[99] Interview with Prof. Kind published in the Boston Globe November 3, 1980. Pg. 19

Revisiting the strange global epidemic of community breakdown, we can now see what may be a common mechanism behind the breakdown of Amazon tribes, the transformation of Italian extended family into nuclear families, or the American nuclear family crisis. While other factors certainly play a role, there is one key that fits all of these phenomena. Non-reciprocal monetary exchanges have started taking place within each of these community systems. Some economic theories consider the monetization of all transactions as a key sign of "development", because from that moment they are captured in the national statistical system. No wonder that the process of community decay is also the highest in the more "developed" countries.

The way Hazel Henderson puts it: "If you want to have breakfast prepared by Mom, go to MacDonalds where she is serving it." In a society where you need to pay your son to cut the grass, the nuclear family breakdown is in its way. And when you decide to put Grandpa in a nursing home, not only the extended family is gone, but you will also have to pay for the day care center.

In a recent survey of the priorities of the American population, the desire to "rebuild neighborhoods and communities" received the highest ranking for an astounding 86% of the population. [100] This is one priority that *everybody* seems to agree on.

But how can community be re-build in today's world?

[100] Survey performed in 1995 by Paul Ray of American Lives Inc., the main survey of value changes in America.

Currencies that Build Community

We just learned the apparently general rule that whenever money gets involved, community breaks down. However, this turns out to be true only when scarce, competition-inducing currencies are involved, such as our official national currencies. In fact, the use of some other types of currencies can have exactly the opposite effect of *building* community.

> ***Complementary Currencies and Economic Theory***
>
> Economic theory claims there is no reason why people should accept the inconveniences of dealing with complementary currencies and the national currency in parallel. However, nobody has forced anyone to do so in the examples that will be listed in this and the previous chapter. The fact is that people around the world create their own currencies and continue using them in parallel with the normal national currencies. "A fact is more respectable than the Lord Mayor of London," goes one English saying.
>
> Some conventional economic theorists have tried to explain away the whole non-traditional currency phenomenon on the basis of tax dodging. However, the complementary currency phenomenon cannot be explained away on such a simple basis.
>
> The proof is that the most prevailing type of complementary currency is the Local Exchange Trading System (LETS), in which all transactions are stored in a computer. It is very easy for a tax authority to find out and tax what is going on in such a system. In fact, a lot easier than when the normal national currency is used.
>
> Participants themselves justify the inconvenience of using two currencies in parallel because they have experienced a re-birth of community when well-designed complementary currencies are used.

None of this is theory. We are dealing with real-life experiments which have been going on in a wide variety of countries, in some cases for decades. Theory is way behind practice in this field (see sidebar).

There are indeed currencies which have reciprocity built in, which are more compatible with a gift economy than our national currencies. Practice has demonstrated that such currencies *build* community instead of destroying it.

What kind of money could that be?

The Magick Box Fairytale

A fairy tale for my seven year-old godchild will illustrate the concept behind such currencies.

As we will soon see, some fairy tales are true.

To explain how this particular fantasy has become a real-life experience for grown-ups, the best way is not theory but a visit to real-life applications

Some Real-Life Examples

The balance of this chapter will provide six case studies of the Magick Box concept. The first three are US applications, the others are respecively from Brazil, Japan and Mexico. Each one depicts a very different approach. You will learn something different from each, but you can also get the core concept by choosing from among the six only those examples you find most intriguing. The six case studies are:

1. Time Dollars, invented by a prominent Washington lawyer, and applied now in several hundred communities in the US. Thirty different states have recently started promoting this approach to pragmatically solve local issues. (Pg. 253).
2. Ithaca Hours, a paper currency launched by a community activist in the small university town of Ithaca, New York. Ithaca is a relatively low-income community of about 27,000 inhabitants. Similar types of paper currency systems are now operational in 39 different communities in the US. (Pg 257)
3. The PEN Exchange, illustrating how a complementary paper currency helped build community in Takoma Park, Maryland, a well-off suburb of Washington D.C. (Pg. 259)
4. Curitiba, a provincial capital of 2.3 million inhabitants in Brazil, where a mayor used complementary currencies for 25 years, propelling this Third World city to First World standards in less than one generation. In 1992, Curitiba was awarded the title of "the most ecological city in the world" by the United Nations. Its mayor has become a nationally recognized political hero. (Pg 264)
5. A remarkably successful application of a specialized "Health Care Currency" operating at the national level in Japan which provides an innovative way to improve the quality of health care at no costs to the government. (Pg. 272)
6. Tlaloc: A Mexican popular neighborhood currency provides another version of low-tech complementary currency. It operates without individual users needing access to either a computer or even a telephone (Pg 273)

This chapter concludes with two examples of hi-tech integrated payment systems, enabling dual payments in both national currency and complementary currency in one single transaction.

1. Time Dollars

Edgar S. Cahn, professor at the District of Columbia Law School and inventor of Time Dollars, did exactly what our `Magick Box` schoolteacher did, with startling results.

He developed his Time Dollar concept in 1986, initially for retirement homes in Florida, a school district in Chicago, and a social project in Washington, D.C. Now it has spread into hundreds of applications. One incentive is that the Internal Revenue Service (IRS, the US tax authority) has ruled that Time Dollar transactions are tax free. Even in the fairy tale I didn't dare to go *this* far!

Time Dollars has an elegant simplicity. Here is how it works.
Joe doesn't have good eyesight and can't drive a car anymore. But he needs a special pair of new slippers from the other side of town. Julia agrees to make the one-hour drive to get the slippers. Julia gets a credit for one hour, while Joe gets a one hour debit, which they can mark on the blackboard near the superintendent's office.

Julia can spend her credit on the cookies baked by another neighbor, while Joe will offset his debit by tending the community garden, or something else that his bad eyesight allows him to do.
If Joe was going to spend one hour working in Julia's garden, that would be simple barter. However, the fact that Joe can work for an hour in the garden of someone else in the community to cancel his Time-Dollar debit, and that Julia can use her credit to buy Jane's cookies, makes Time-Dollar exchanges much easier to complete than barter. Joe and Julia do not need to have "matching needs and resources" to complete the transaction.
That is why Time Dollars is real money as we defined it earlier: an agreement within a community to use something (in this case, hours of service) as a means of payment. In other words, Joe and Julia have created money. Literally, as soon as they agreed on a transaction, as in the fairy tale, the money was created. It is as simple as that.

Gary Larson Cartoon
"Einstein discovers that time is actually money"

The costs of starting such a system are practically nil. For small - scale communities, one can use a blackboard, or a piece of paper. For larger scale projects, a "Timekeeper" computer program can be downloaded for free on the Internet (www.timedollar.org). All participants' names are listed with little pluses and minuses. It expands automatically to record whatever number of participants and person-hours are needed. Furthermore, whenever someone gets a credit, someone else automatically creates a debit. The sum of all the Time Dollars in the system is, therefore, always zero at any point in time. But Joe got his slippers, Julia her cookies, and the community a vegetable garden, and not one dollar was needed to make it all happen.

The goods and services exchanged are only the tip of the iceberg. A comparative survey was made of retirement homes: those using the Time Dollar approach compared with those that didn't. [101] In the retirement homes using the Time Dollar approach, they found that using this money knits the group together. People say hello to each other. When there is a birthday, it becomes a big party for the entire home. People watch out for each other. There is a potluck dinner once a week. They start a communal garden. In short, *community has been created.*

This simple device has changed the way people relate to each other. People feel that their contributions are rewarded. They feel valued. One totally unexpected side effect appeared. Participants got healthier! In Brooklyn, New York, a health insurance company called Elderplan has decided to accept 25% of the premiums for its senior health programs in Time Dollars. Elderplan has even created its own "Care Bank" where 125 participants log in an average of 800 hours of service per month. It started as a home repair service by which potential problems are fixed *before* they cause accidents. The Care Bank has as motto: A broken towel bar is a broken hip waiting to happen[102]. For the insurance company, this is clever marketing. But Elderplan also took these unusual initiatives because it had noticed that seniors participating in Time Dollar systems were experiencing fewer health problems. The bottom line was that their health care is less expensive for the insurance company. The Elderplan system is expanding during the year 2000 to include various boroughs of New York. A special new program focusing on diabetics and which includes a major component of self-help is being launched by the same time bank. The time credits are now also redeemable against cinema and theatre tickets, healthcare products, transport vouchers, supermarket and luncheon vouchers throughout Brooklyn.

[101] The Multinational Monitor April '89
[102] US News and World Report December 30, 1996 pg 72.

In a world where seniors are becoming an ever-increasing proportion of society, to the point that medical expenses may bankrupt entire countries, is anybody taking notice?
Research has also proven with hard data the value of this model. Time Dollars systems have proven effective not only in boosting health care systems, but on other social problems such as youth crime, and lawlessness in run-down neighborhoods. Research by the University of Maryland Center of Aging has shown that about a third of the people taking part in time dollars had never volunteered for anything before. They also showed that the "burn-out" or "drop-out" rate which for volunteers reaches 40% per year, drops down to 3%.[103]

As of July 1997, more than 200 townships and social service programs have started Time Dollar systems in the US.

One of the pioneering states was Missouri, which has officially included Time Dollars as a key ingredient in its social policy. There are now 37 systems in Missouri alone. The overhaul of the US welfare system, which became law in 1996, will decentralize many programs to the state level. We can expect many states to follow Missouri in discovering the virtues of Time-Dollars, or some variation of it, over the next few years. By July 1997, Time Dollar systems had already spread to 30 states, including Massachusetts, where one of the first systems began with a $200,000 grant from the Robert Woods Foundation. Maine is the first state to have officially created a position of "Time Dollar Coordinator" as a full time state employee responsible to start dozens of Time Dollar networks and link them up among each other. [104]

The Time Dollar concept is definitely ready to spread outside of the traditional US circles. For example, Pat MacMaster has started three projects within the Cambodian immigrant society in the US. These are Long Beach, CA (50,000 Cambodian population); Lowell, Chelsea, MA (where 25% of the city is Cambodian); and Riviera, MAass. They are using "TimeKeeper" software which they downloaded free from the Internet to keep track of the hours for the participants. The Cambodians

[103] Robert Wood Johnson Foundation: Service Credit Banking Project Site Summaries (University of Maryland Centre of Aging, 1990).
[104] The Boston Globe (July 20, 1997) pg 1. "Barter network affords welfare recipients some purchasing power" by Robert George.

themselves call the system a "Community Building" money, which makes clear what they believe to be its most interesting feature. They also plan to introduce these systems back home in Cambodia, "because it can help there even more."

2. Ithaca HOURS

Ithaca is a small university town with a population of about 27,000 in up-State New York. It is not a rich town. It has, for example, the highest percentage of "working poor" in the state of New York (people who are fully employed, but whose income is so low that they still remain eligible for food stamps).

Paul Glover, a local community activist, felt that the proximity of New York City kept diverting the community energy into the vastness of the big city. He decided to do something about this problem. In November of 1991, he launched a complementary currency designed to encourage people to spend their money and time in the community. Although it requires a little more infrastructure than Time Dollars, it still remains remarkably simple.

The core of the system is a bimonthly tabloid-style newspaper that advertises the products and services of people and businesses who accept Ithaca HOURS. One Ithaca HOUR is equivalent to $10, and represents roughly one hour's work at a generous minimum wage in the area. There are bills in denominations of two, one, one half and one quarter of an hour. Most Ithaca HOUR bills are issued initially via the advertisers in the tabloid newspaper. Each advertiser receives four HOURS' worth in bills when they place an advertisement in the newspaper. The community in which Ithaca HOURS can be spent is voluntarily limited to a geographical radius of 20 miles around the center of town.

Photograph of sample Ithaca HOUR bills

The bimonthly tabloid typically includes about 1,200 listings, including over 200 businesses. These include a local supermarket, all three movie houses, the farmer's market, medical care, lawyers, business consulting, and the best restaurant in town The local bank also accepts accounts in complementary currency, and has been able to attract a very loyal local customer base as a consequence.

One of the keys here is that the advertisers provide their quote in a combination of the two currencies. For example, a house painter advertises that he wants US$ 10 per hour, 60-40 (meaning

60% is payable in Ithaca HOURS, and 40% in regular US dollar currency for the paint, brushes, gasoline, taxes, etc.) Another painter may advertise at $11 per hour, 90-10 (he is willing to accept up to 90% in Ithaca HOURS). So, if you happen to have more Ithaca HOURS available than dollars, you may prefer to go to the latter painter, even if his nominal rate is a bit higher.

Ithaca's movie houses, for example, accept up to 100% in Ithaca HOURS in the afternoon because the cost of projecting a movie is a fixed cost, independent of how many people are present (i.e., the marginal cost of one more viewer as long as seats are empty is, in fact, zero).

Over one thousand people use the complementary currency regularly, and many pay rent or other services with it.

Finally, 9.5% of all Ithaca HOURS issued are being given to local non profit organizations who perform various tasks for the community at large. So far, 19 different nonprofits have benefited from these donations.

Here are some real - life stories of participants:

- Ed provides ophthalmology (eye doctor) services for HOURS, most of which he spends on food. "No one should lack medical care because they lack dollars," he says. "HOURS and barter are a solution to health care needs. HOURS say that everyone's time is important, and I like that."
- Richie earns HOURS in his video rental business. He has used them for shoe repairs, books, house-sitting, lawn mowing, hauling, etc. "HOURS have become the driving force behind who I patronize at the Farmer's Market. I look for the telltale yellow sign that says, 'We accept Ithaca HOURS.' This keeps the money in the community and that means economic prosperity for all.."
- Neal is one of Richies' suppliers. He sells organic food at the Farmer's Market. He spends his HOURS on movies, bread, and farm help during crop season. "Every community needs to grow as much local food as possible. It's absurd when more calories are used to transport food than the food contains. Our money logo says 'In Ithaca We Trust.' That's the bottom line, right?"

Other comments by actual participants illustrate the variety of motivations involved (see sidebar.) Paul Glover summarizes the benefits. "Thousands of purchases and many new friendships have been made with our own money, and hundreds of thousands of local trading has been added to what we call our Grassroots National Product." The big decisions concerning the system as a whole (printing, denominations, manner of issue, grants) are made during twice-monthly potluck dinners, which acts as the "Ithaca Reserve Board."

The system has been featured on national TV, first in Japan, and more recently in the United States. The participants are happy with the results, and the businesses have seen more locals stay around to spend both their regular dollars and their Ithaca HOURS. Even the people who don't like Paul Glover's activist style or politics have come to like his system. This system has also started spreading around the country. Paul Glover sells a kit describing how to set up such a system for $25 or two and a half Ithaca HOURS. As of 1997, there were 39 HOURS systems operational in the world.

Bottom line: It is a successful model with very low start-up costs, and it works. However, it has one drawback common to all fiat currencies: Ithaca HOURS require someone centrally deciding how much currency to issue. While this is done in a democratic way by the "Ithaca Reserve Board", all Central Bankers will confirm that managing a fiat currency supply remains a tricky decision. The biggest risk is that if more currency is issued than people want to use, there will be inflation and devaluation of the complementary currency. This will not happen as long as Ithaca HOUR managers follow Paul Glover and his colleagues lead in remaining wisely conservative in their money supply decisions. But this risk precludes me from recommending this approach for generalized use.

3. The Pen Exchange

Olaf Egeberg lives in Takoma Park, Maryland, on the border of Washington, D.C., where the US Treasury and the Federal Reserve headquarters are located. After he retired, he wanted to give something back to his community. "In this day and age, we lose sight of the most valuable resources: each other. We can have a walking-distance society right here, where we already are. I think neighborhoods are the most important society for us to build now," was his reasoning.

In contrast with Ithaca, this is a decidedly middle-class community with a very low unemployment level (about 1%). Olaf decided to define his neighborhood as all families within five minutes walking distance from the center of town, roughly 450 families in total. Hence, the name "Philadelphia-Eastern Neighborhood" (PEN for short) for the streets at the limit of these blocks.

He sent out fifty letters, describing how the PEN Exchange would contribute to "building a more supportive society for us here. There's more human contact, more communication, more getting to know each other than before." He got back zero answers.

Puzzled by this lack of response, he decided to make the tour of the houses in person. The mystery was cleared up immediately; nobody thought they had something to offer in the Exchange. They all thought that the activities involved in the Exchange would be like normal commercial transactions. For instance, an accountant who loves to forage for mushrooms on weekends had not thought that other people might be interested in learning about mushrooms. A retired person who had lived ten years in Europe never thought to exchange her knowledge of the area for something she might need.

There is quite a difference between the normal commercial yellow pages and the PEN Directory. Lots of goods and services are offered for trade in the PEN Directory for which people wouldn't be spending US dollars . Also, many of these listings are for things that people *like to do for the fun of it.* This is fun work, not boring jobs.

As a consequence, there is something else that happens in Takoma Park. It turns out that the complementary currency and the directory are just the oil to get the imagination going, an excuse to make the first contacts. Most actual exchanges use the complementary currency only for part of the transaction, sometimes not at all, and involve exchanges that weren't even thought of as items to be listed initially in the directory. Gradually, neighbors get into the habit of just helping each other out as gifts, without any currency exchange. Notice that, as Olaf's purpose was to reconnect people, such an evolution is a positive sign.

The Washington Post [105] covered the story. It quoted Mary Rodriguez, 89, who has lived in Takoma Park for over 40 years, and has never seen anything like it. "There are so many neighborhoods where you never get to know the people next to you. Here the neighbors do things for one another. It gives a small-town feel." After only three years, the community fabric already runs deep and goes way beyond what an economic analysis may show about people exchanging goods or services in another way. Neighbors keep abreast of local issues by e-mail, and computer-literate residents offer free Internet lessons to any neighbor wishing to join. Nikolai Vishnesky, 40, who started the e-mail system last year says, "Now folks can take technology that is usually used for global interaction and make it a local resource."

[105] Article by Lina Fina in The Washington Post (Thursday, February 1, 1996)

Neighbors deter crime by patrolling the streets at night, publish a neighborhood Newsletter, take turns watching each other's children at play groups, help housebound seniors, grow food on a community farm in Upper Marlboro, and greet new neighbors.

Martha Monroe, 38, believes, "We are unique because in most Washington suburban neighborhoods, people get home from their job in the city, watch television and go to bed."

4. Curitiba: the Brazilian City which left the Third World[106]

In 1971, Jaime Lerner became mayor of Curitiba, the capital of the southeastern state of Paraná, Brazil. He was an architect by profession .

Quite typical for the region, the urban population had mushroomed from 120,000 people in 1942 to over a million when Jaime became mayor. By 1997, the population had reached 2.3 million. Again, quite typically, the majority of these people lived in "*favelas*," the shanty towns made out of cardboard and corrugated metal.

One of Jaime Lerner's first big headaches was garbage. The town garbage collection trucks could not even get into the favelas because there were no streets wide enough for them. As a consequence, the garbage just piled up, rodents got into it, and all kinds of diseases broke out. A mountain - sized mess.

Because they didn't have the money to apply "normal" solutions, such as bulldozing the area and building streets, Lerner's team invented another way. Large metallic bins were placed on the streets at the edge of the favelas. The bins had big labels on them which said: glass, paper, plastics, biodegradable material, and so on. They were also color coded for those who couldn't read. Anyone who brought down a garbage bag full of presorted garbage was given a bus token. A school-based garbage collection program also supplied the poorer students with notebooks. Soon the neighborhoods were picked clean by tens of thousands of kids, who learned quickly to distinguish even different types of plastic. The parents use the tokens to take the bus downtown, where the jobs are.

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[106] Various sources, including a dozen first - hand interviews with local officials during a field trip to Curitiba in 1996-97. Some information about Curitiba's development strategy has also been published in English; see Rabinovitch, Jonas "Curitiba: Toward sustainable urban development in Environment and Urbanization Vol. 4, no 2 pages 62-73; October 1992; and Rabinovitch, Jonas and Leitman Josef "Urban Planning in Curitiba" in Scientific American March 1996 pg. 46-53

What Jaime Lerner did, from my perspective, is invent Curitiba money. His bus tokens are a form of complementary currency. His program, "Garbage which is Not Garbage," could just as well have been baptized, "Garbage which is Your Money."[107]

Today, seventy percent of all Curitiba households participate in this process. The sixty-two poorer neighborhoods alone exchanged 11,000 tons of garbage for nearly a million bus tokens and 1,200 tons of food. In the past three years, more than 100 schools have traded 200 tons of garbage for 1.9 million notebooks. The paper recycling component alone saves the equivalent of 1,200 trees each *day*.

Let it be clear that Lerner's team did not start off with the idea to create a complementary currency. What happened instead is that they used an *integrated systems* analysis for all the major issues at hand and spontaneously ended up creating a complementary currency to solve them.

Nor is the garbage cycle the only form of local money in Curitiba which has resulted from this approach. For instance, another system has been designed specifically to finance the restoration of historical buildings, create green areas, and social housing in a way that would not financially burden the municipality. It is called *"sol criado"* (literally, "*created surface*") and works as follows.

Like most cities, Curitiba has a detailed zoning plan which specifies the number of floors that can be built in each zone. In Curitiba, however, there are two standards: the normal allowable standard and the maximum level. For instance, a hotel with a ground plan of 10,000 square meters is being built in an area where the normal allowable level is 10 floors and the maximum 15. If the hotel owner wants to build 15 floors he has to buy 50,000 square meters (5x 10,000 squ. Meters) in the *sol criado* market. The city itself only plays the role of an intermediary matching demand with supply in that market.

But where is the supply for these *sol criado* surfaces generated?
One source is historical buildings. For instance the *Club Italiano* owns a beautiful historic landmark building called the Garibaldi House. The property has a total ground surface of 25,000 square meters, but the place needed a serious restoration job. The Club did not have the money to restore the building. But because it is located in an area where up to 2 floors could theoretically be built, it

[107] Over the more recent years a good part of the token distribution has been taken over by the private sector; 50 tokens are given per month by the corporations to their employees. In parallel, the component of fresh fruits and vegetables in

sold 50,000 square meters (2 floors x 25,000 square meters) to the highest bidder, for instance, the hotel owner mentioned above. The proceeds belong to the Club to administer, but have to be used to restore the property. Therefore, the hotel owner ends up paying for restoring of the historic edifice to obtain the right to build the extra floors of the hotel, without financial intervention from the city. Other sources of supply for such "created surfaces" are green areas where trees are protected and the construction of social housing in other parts of the town.

Several of the more recent of the sixteen extensive nature parks, open to the public, have been completely financed in this way. The owner of a large plot of land obtained the right to develop one side of the street on the condition that the other side becomes a public park. The new housing has an extra value because it is located at walking distance from the park, the people of Curitiba have another park for their week-end strolls, and the township does not have to go into debt or raise taxes to obtain all of that. Everybody wins.

What is most interesting from our perspective is that this market for "created surfaces" is another type of specialized complementary currency, which enables Curitiba to obtain public goods for which other cities have to obtain traditional financing.

By now, this should sound familiar. Whenever a well-designed new currency system is implemented, something much bigger than the money and the economic activities it generates starts happening.

What began as a garbage and public health problem, has become a way to solve public transportation and unemployment difficulties in a uniquely innovative way. By creating the *sol criado* market system, significant public advantages are obtained at no cost to the city itself. The secret is not that this city or population has something unique, but that an *integrated* systems approach has created complementary currencies to tackle the problems at hand. The net result is a city where many things run against conventional wisdom (see box).

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exchange for garbage has increased. Also for the holiday seasons, Panetone's and other festive ethnic foods are supplied in exchange of "garbage money".

Curitiba: an Other Development Strategy

- Public transportation is encouraged over individual car usage. This is accomplished by making the public transport *better and more convenient* than the private variety. For example, it is *speedier* because of an original speed-loading process: the bus tokens enable the users to enter into specially designed raised-tube bus stops; when the bus arrives, entire sections of both the bus and the unit open so that people can move in and out in large groups in a few seconds. No time is lost collecting money or tokens. Similarly, the special express lanes for public transport have made bus use the fastest and most convenient way to move around anywhere. A single fare of .65 R$ (about 50 US cents) enables someone to move over the entire system, regardless of distance covered. This includes any connections to feeder and inter-district public transport systems. The real proof is that this public transport system has become the preferred way. One out of four people using public transportation own cars, but prefer not to use them to get around town. Because of the efficiency of the public transport system, it has been possible to create several downtown pedestrian streets, including the Main Boulevard. These pedestrian streets are now used for local music, popular theater performances, and children's art festivals. There are also arcades of shops and restaurants which stay open 24 hours per day and maintain the vitality of the downtown area, instead of the ghost-towns that characterize most city centers.
- Conventional city planning claims that any city with more than 1 million inhabitants must have a subway system to avoid traffic congestion. Similarly, cities that generate more than 1,000 tons of solid waste per day need expensive mechanical garbage-separation plants. Curitiba has neither. And the investment needed for their public transport system costs only 5% of an equivalent underground system. The savings has allowed Curitiba to keep its fleet of buses among the newest in the world.
- There is a Free University for the Environment offering practical short courses at no cost for homemakers, building superintendents, shopkeepers, and taxi-drivers. They are taught the environmental implications of their daily activities. The building is a breathtaking architectural landmark made mostly out of recycled telephone poles, in what is now an idyllic setting near a lake. The location used to be an abandoned industrial stone mine.
- Curitiba is the only town in Brazil that now has a significantly lower pollution level than in the 1950's; it also has a lower crime rate and a higher educational level than comparative Brazilian cities. It is the only city in Brazil that has actually turned down grants from the federal government, because they have solutions which involve less red tape.
- A botanical garden has been planted on what was once the inner city dump, which now serves as a recreation and research center. In addition, there are currently 16 different nature parks around the city, based on different themes. As a consequence, Curitiba has 52 square meters of nature per inhabitant. The UN ideal standard is 48 square meters of green surface per city inhabitant, a level rarely, if ever, reached by cities in either the developed First or the Third World. Furthermore, all these nature parks are easily accessible from the transportation network, so that the ordinary people can - and do - fully take advantage of them.
- Curitiba was recognized in 1992 by the United Nations as the model ecological town in the world. And Jaime Lerner has received international recognition for his initiatives. Some other cities have started to take notice. About 20 cities in Brazil have started to implement the integrated public transport system. Cape Town has copied several features of it. City planners from Buenos Aires, Santiago de Chile, Montreal, Paris, Prague, Mexico, and Lagos have been impressed by what they saw.

Perhaps the clearest political signal that all this works is that every time Jaime Lerner presented himself for election, he was reelected by a landslide. Today, he is Governor of the State of Paraná. A movement has started to draft him as next President of Brazil.

The Curitiba story demonstrates that there are political careers to be made in relation to complementary currency. Jaime Lerner's success cannot be attributed simply to personal charisma or ethnic background. The proof is that not one but at least three political careers have already been launched on the strength of these ideas. The two mayors who succeeded Lerner - Rafael Greca and Cassio Inaguchi, each with quite different personalities and ethnic backgrounds - started as staff members in Jaime Lerner's planning team. What is required for succeeding on this path is imagination and an ability to get things done.

Finally, the impact of the complementary systems is identifiable in economic terms. The average Curitibano makes about 3.3 times the country's minimum salary, but his real total income is at least 30% higher than that (i.e., about 5 times the minimum salary.) This 30% difference is income directly derived in non-traditional monetary forms, such as the food for garbage systems. Another indication is that Curitiba has by far the most developed social support system in Brazil, and one of its most vibrant cultural and educational programs, and still doesn't have a higher tax rate than the rest of the country.

Even at the traditional macro-economic statistical level there are clear indications that something unusual is going on in Curitiba. The Domestic Product of Curitiba increased between 1975 and 1995 by some 75% more than the entire state of Paraná, and 48% more than Brazil as a whole. Such difference in growth rate has remained valid in the recent past. Between 1993 and 1995, Curitiba's Domestic Product grew 41% faster than the state of Paraná and 70% faster than Brazil's.[108]

Curitiba's success has attracted an internal immigration so that the Curitibano population grew faster than the state of Paraná or the country as a whole. Between 1980 and 1995, Curitiba's Domestic Product *per capita* grew 45% faster than the state of Paraná or Brazil as a whole.[109]

Curitiba is a practical case study where 25 years of experience show that a whole system approach using *both* the traditional national currency and well - designed complementary currencies is beneficial to everybody, including people who are focused exclusively on the traditional economy denominated in national currencies. It enabled one Third World city to join First World living standards in one generation's time.

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108 The 1993-95 data is derived from *Indústria, Comércio e Turismo Gestão Rafael Creca* (December 1996) The respective growth rates are 8.6% per annum for Curitiba, 6% for the State of Parana and 5% for Brazil

109 The respective *per capita* growth rates between 1980 and 1995 is 277% for Curitiba, 190% for Parana and 192% for Brazil Statistics from *Informaciones Socioeconomicas*, issued by the *Prefeitura da Cidade Curitiba,(1996)* compared with the Brazilian data bases of SACEN, IPARDES and SICT/ICPI.

5. Japanese Health-Care Currency

The Japanese population is the second fastest aging one of the entire world. There are already 800,000 retired people needing periodic help and another 1 million handicapped people, and the Japanese Ministry of Health forecasts a vast increase in these numbers for the foreseeable future.

In order to face this rapidly rising problem, the Japanese have implemented a new type of Health-Care Currency.[110] In this system, the hours that a volunteer spends helping older or handicapped persons in their daily routines is credited to that volunteer's "Time Account." This Time Account is managed exactly as a savings account, except that the unit of account is hours of service instead of Yen. The Time Account Credits are available to complement normal health insurance programs.

Different values apply to different kinds of tasks. For instance, a meal served between 9 a.m. and 5 p.m. has a lower credit value than those served outside that time slot; household chores and shopping have a lower credit value than personal body care. This was the currency which was behind the vignette of "Mr. Yamada's Retirement Plan" in Chapter 1.

These Health-Care Credits are guaranteed to be available to the volunteers themselves , or to someone else of their choice, within or outside of the family, whenever they may need similar help. Some private services ensure that if someone can provide help in Tokyo, the time credits become available to his or her parents anywhere else in the country. Many people just volunteer the work and hope they will never need it. Others not only volunteer, but also give their Time-credits away to people who they think need them. To them, it amounts to doubling their time. It works like a matching grant: for every credit hour of service, the amount of care provided to society is two hours.

Most significantly, this type of service is also preferred by the elderly themselves, because the caring quality of the service turns out to be higher than those obtained from Yen-paid social service workers. One of the names of this currency *"Fureai Kippu" ("Caring Relationship Ticket")* spells out the agenda. It also provides a more comfortable emotional space for the elderly, who would otherwise be embarrassed to ask for free services.

The Japanese also report a significant increase in volunteer help, even by people who do not bother to open their own Time Accounts. The reason may be that with this system, all volunteers feel more

[110] Source: A l'ecoute du Japon (Brussels: Information bulletin of the Japanese Mission to the European Union) July 3, 1995 pg. 7-8.

acknowledged. This precedent should put to rest concerns that paying volunteers with complementary currency might inhibit those not getting paid from volunteering.

As of end 1998 there are over 300 municipal level health care time credit systems in Japan, mostly rum by private initiatives such as the Sawayaka Welfare Institute, or the "Wac Ac" (Wonderful Aging Club, Active Club) and the Japan Care System (a non-profit with some governmental funding).

In summary, the Japanese Health-Care Currency has proven both more cost effective and compassionate than the system which prevails in the West. As the US and Europe embark on an identical trend of an aging population, why not learn from the Japanese experience?

6. Tlaloc

Tlaloc is the old Aztec raingod, important in the pre-hispanic pantheon. It is also the name of a street in a popular neighborhood of Colonia Tlaxpana in today's Mexican capital city. This street is the home of a cooperative development center *Promoción del Desarollo Popular A.C.* which, since 1987 under the impulse of Arquitect Luis Lopezllera started its own currency system to whom the name Tlaloc was given. What is particularly interesting in the Tlaloc example is its mixing of high-tech and low-tech operation, given that it does not require access to a computer or even a telephone to operate effectively. But it has nevertheless its own website (www.laneta.apc.org), its own periodic publication ("*La Otra Bolsa de Valores")*, and even a whole range of other community services.

The Tlaloc is a mutual credit system where the currency is issued in the form of paper cheques. A number of trusted users have checkbooks and always issue the cheques in round amounts (e.g. 1, 2, 5, 10, 50). These cheques have a number of endorsement spaces in the back, so that the first recipient can endorse it for the next user, and so on. The cheques circulate as currency, and periodically, someone can bring in the cheque to the center when the last user is credited and the issuer is debited. In short, this system has the advantages of both being a mutual credit system and a paper currency. It requires only one personal computer in the system to keep the accounts. And it can circulate as paper currency without needing access even to a telephone to call in the transaction.

Other communities have started to emulate this model. For instance, the "*compromisos*" cheques circulate in a popular neighborhood of Toctiuco in Quito, Ecuador.

Complementary Currencies in the Information Age

Payment systems for complementary currencies at this point tend to function *in parallel* with the existing national currency. Although many transactions involve simultaneous payment by both types of currency, their execution will typically require two different interventions. I think that the way to the future will be the convenience of simultaneous transactions in both types of currency using the same media. This would automatically provide the same level of security for both payments, and cost about the same as setting up automatic payments in a single currency.

An Example of an Integrated Currency Design: Commonweal Inc. of Minneapolis

Joel Hodroff, founder of Commonweal, Inc. in Minneapolis, Minnesota has created what I suspect to be the first really integrated design formally integrating the national and the complementary currency systems.[111] He also has obtained impressive endorsements from the business community (including presidents of several banks and of the largest shopping mall in the country), city and labor union leaders, a county board of commissioners, community activists, technology experts, and other opinion leaders.

The Commonweal Community Herocard system is consciously designed as a win-win proposition for all participants. Businesses gain new customers and improve their profitability. Non-profits attract more volunteers and stretch their dollars at little cost, and earn referral fees ("cause related marketing") every time one of their members makes a purchase with Herocard (the initial system is a simple debit card, but the design is ideal for dual currency smartcards whenever merchants will be equipped with smartcard readers). And, perhaps most importantly, communities have a way to mobilize otherwise underutilized human and other resources to solve their local problems.

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[111] Sources include personal conversations; the Commonweal, Inc. Business Plan (July 18,1998); Hodroff, Joel: Creating Jobs in a Decade of Downsizing: Introducing the Commonweal Currency Exchange Network(March 17,1995); Morris, David Institute for Self Reliance: Memorandum on C$D(Washington, DC, 1995); Commonweal, Inc. (POBox 16299 Minneapolis MN55416) Building Positive Futures for Youth and Communities (Minneapolis, Spring 1998).

All the pieces of the puzzle, including the technologies, are currently available and have all been successfully market-tested separately. What is new is putting them all together in an integrated design.

The secret is a dual currency system, where the national currency and the complementary currency operate simultaneously.

Here is how it works.

The Concept

In the Minneapolis case, two currencies are utilized: the normal US$ and C$D. C$D is an acronym for Community Service Dollars. Its unit of account is 1 C$D = 1 US$, and one service hour is valued at 10 C$D.

There are also two complementary organizations in the Herocard system: one a for-profit business and the other a non-profit community economic development network. The former deals primarily with the business participants and makes its money as any credit card clearing business does, and the latter makes the C$D available to the non-profit community of the area.

The process of C$D creation starts in the business world. Practically all businesses have spare capacity in order to be able to deal with the high seasons or hours. This spare capacity is therefore lying idle most of the time: movie houses in matinees, even the most popular restaurants in the earlier hours, resort hotels during week-days. Most manufacturing processes similarly lend themselves to making a few extra runs whose marginal costs are only a fraction of the normal costs. For example, furniture makers or clothing manufacturers can produce at a low marginal cost extra items of a series, and often do so. Today, in most cases this extra capacity just lies idle. The more entrepreneurial businesses try to make something extra on it by off-loading the surplus items in barter or discount deals. This is already a very common business practice in many types of businesses from hotel rooms to two-for-one dining in restaurants, from textiles to sporting goods.

In Minneapolis, businesses have an additional option: joining the Commonweal Community HeroCard program and accepting C$Ds. (For example, a restaurant could decide to accept C$D for up to 50% of the bill for any customer before 7 PM instead of the usual two-for-one early dining discount. It could choose to accept only 40% in C$D after that hour. Or a movie house could accept up to 90% in C$D during matinees because their marginal dollar cost once they project a movie is, in fact, zero for additional customers as long as seats are available.)

The C$Ds are issued to non-profit organizations who provide services to the community,and who pay their volunteers with them.

One important feature of the Minneapolis approach is that after a C$D has been redeemed in a business, it disappears (in this aspect C$Ds are similar to frequent-flyer miles or discount coupons). New C$D are then issued to reward new community service. This limits the problems that can arise in decisions of quantities of money to be issued, given that they automatically self-destruct after each use.

Advantages of the Dual-Currency Approach

This design enables people who have more time and less money to fully participate in the economy (as with Time-Dollars). It is also very effective marketing , because it increases new customer traffic and loyalty without having to cannibalize their normal dollar-based clients.

It is really a win-win for the entire community, as shown for each type of stakeholder.

For participating businesses:

From the participating businesses' viewpoint, there is one significant advantage even beyond the ones already mentioned: customer loyalty and the label of good "community supporter'.Businesses get clients they would not get without this system, and they still make a dollar profit on each transaction. (because the dollar component should always more than cover the marginal dollar costs, including taxes.)

Finally, there is an improvement in the neighborhoods where services are provided that otherwise would not occur, which is good for business overall.

For Non-profit Organizations

They are also among the big winners in this new game. They can increase their volunteer activities. The community involvement in the selection and allocation of C$D also gives the more active non-profits wider recognition.

For Member participants

Members who participate have an easier way to blend their two life-styles together. Those who choose to do so can have their jobs *and* their work Their work contributions are more acknowledged than before, and the general improvements in the quality of their community also benefit them.

For the unemployed and economically disadvantaged

This system enables people to turn time into money. Economically disadvantaged people can therefore more fully participate in the economic system, as they are typically those who have more time than money to spend. It also provides them with a second career chance in the non-profit world which would otherwise not exist The discreet nature of the payment system (nobody but themselves has to know whether they are paying in dollars or C$D) also ensures more dignity than food stamps or social security checks. It is also free of the hassles of these bureaucratic programs.

For the Rest of the Community

Even the people who do not participate at all in any part of the system derive a significant benefit from this approach. If the Commonweal program did not exist, a number of functions in their community would either not happen at all or would have to be subsidized by their taxes.

What the Commonweal system offers is to mobilize otherwise unused resources in the community to solve problems that need solving. It does this using the market system every step of the way without taxes.

As of 1998, the Commonweal system is in its pilot phase in the Lyndale neighborhood of Minneapolis. Besides the non-profit sector, the Mall of the Americas and other mainstream businesses are involved, including National City Bank which provides the accounting system and statements in C$Ds.. Its design is a pragmatic win/win example of complementary currency which formally integrates into a single payment system the competitive and cooperative economic loops. They are an example of the Integral Economy that will be defined in detail in Chapter 9. It shows that it is possible to mobilize unused resources (both the spare capacity of businesses and the time and skills of ordinary people) to solve our community issues, with direct tangible benefits for both the competitive and the cooperative economies.

Internet Money for Virtual Communities

One of the most intriguing and encouraging aspects of Internet developments has been the upwelling of "virtual communities" compellingly documented in Howard Rheingold's "*Virtual Communities: Homesteading on the Electronic Frontier*"[112]

Community has become such a scarce resource in our societies that the appearance of a new way to create it is indeed remarkable.

Virtual Communities versus a Monopoly of National Currencies on the Net

However the process by which this miracle has occurred is too often not fully understood. Even some of the people who created virtual communities have not always been aware that the secret of their success relates to the fact that *they had created a gift economy on the Net*. "I'll help you today, and someone else will help me if needed some other day" has been the common pattern in the spaces wherever successful virtual communities have sprung up. In short, it is one more application of the principles underlying communities as described at the beginning of this chapter. Virtual communities today are 'communities' only because social bonds have sprouted up around a 'gift economy' of an open information exchange. Recently the business world has also discovered the importance of this phenomenon.[113]

However, there seems to be little awareness either in business or on the Net that unless some precautions are taken in the way this is done, it may kill the proverbial goose that lays the golden eggs, and virtual communities will simply disappear as have most traditional "primitive" communities operating on the basis of "gift economies." Just as traditional communities have unwittingly suffered from the competition-inducing process built in to our 'normal' national currencies , communities on the Net similarly may be torn apart if the new payment systems developed for the Internet rely exclusively on these types of currencies.

As the Net becomes home to the growing number of commercial enterprises, those who value the Net as community space may want to take some precautions lest virtual communities meet the same fate as almost all the gift economies that preceded them.

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[112] Rheingold, Howard: Virtual Communities: Homesteading on the Electronic Frontier (New York: Harper Perennial, 1993). ; Also see Jones, Steve ed. Cybersociety (Thousand Oaks, CA: Sage Publishers, 1995) and Jones, Steve ed. Virtual Culture Cybersociety (Thousand Oaks, CA: Sage Publishers, 1997)

[113] Business Week: (May 5, 97 pg. 80).

The Net: an Ideal Yin Space for Economic Symbiosis

It so happens that some characteristics of the Net may make it an ideal space where the community-supporting currencies could happily thrive next to the traditional national currencies, enabling a new symbiosis between both approaches.

Because Internet offers unlimited 'space' and transcends natural and cultural boundaries, the electronic marketplace need not be limited to one exclusive currency system. *Virtual space is indeed what Taoists would call a "Yin" space*: self-organizing, uncontrollable, infinitely expandable, the original meaning of Self-Organizing *Chaos*. It therefore provides an ideal space for the coexistence and integration of different economic paradigms, precisely because of its flexibility and non-exclusiveness. In physical space, if Big Business buys up Fifth Avenue in New York, there is no room for alternative systems to even be present, not to speak of flourishing. The Net in contrast always can expand to accept another parallel system without detracting anything from each other. Internet itself would be enriched by such a variety. . Indeed, a 'free market' of different kinds of currency systems may benefit all of them. Furthermore, new synergies between virtual communities and local communities would become possible, improving the quality of life of the participating Netizens.

Desirable Characteristics of Internet Currencies

I propose that the following five characteristics would be desirable for Internet currencies for use by virtual communities:

- efficient and secure in an electronic payment system;
- convertible into local expenses (i.e. answering the key question: how can I use credits earned on the Net to pay for my food and daily needs?);
- non-national (one key characteristic of the Net is its lack of national boundaries; while national currencies are specifically designed to foster national consciousness. Why should a German buying a product offered by an Indian company on the Net have to pay in Deutsche Mark, Dollars or Rupees?
- self-regulating on the Net itself;

- supporting the creation of community.

None of the currencies and payment systems currently offered on the Net meet all these requirements. Specifically, payment systems using the existing national currencies clearly meet the first two characteristics but none of the others.

A Solution: An Complementary Currency Clearing House on the Net?

Of course, all these characteristics are met by complementary currencies (particularly the Mutual Credit Currencies), except that they are currently not available for trading on the Net.
The only additional step needed to create the Internet currency meeting our specifications is to have an automatic electronic clearing house for such complementary currency systems, clearing house which could operate on the Net itself. Such a Complementary Currency Clearing House would enable in practice is that someone in Manchester, UK, for instance, could ‘earn’ credits by providing a service on the Internet, and exchange them for use in her local LETS system. Conversely, the credits earned in Manchester’s local economy would be more valuable by becoming exchangeable for goods and services on the Internet. “Think globally, act locally” would gain some added pragmatic reality in this approach.

Note that I do *not* claim that no national currencies should be used on the Net, or that community currencies of the type described above could or should replace the national currencies. But I do claim that time is ripe to ensure that community is not squashed by ignorance of the power of currency to shape our relationships.

An Alternative: Integrated Payment Services?

A different approach would be available for any commercial venture that would want to gain a competitive advantage by designing high quality *mixed* payment systems. There is an advantage to be gained by those that will design *open payment systems.* They would define their strategic function as *transferring value* on the Net independently on what type of currency is involved. There is already demand for mixed payments on the Net: for example a payment for a purchase of Cendant merchandise partially payable in dollars and partially in NetMarket currency, Cendant’s own corporate scrip (see Chapter 4). There will be demand for services that will enable someone to send an e-mail invitation and attach some frequent flyer miles to purchase an airline ticket. Similarly, one could just as well make a mixed payment in national currency and complementary currency (the same service that Commonweal is supplying in Minneapolis, but here it would be on the Net instead of in a downtown shopping mall).

Just like some local banks have been able to attract additional customers because they have been willing to deal with their complementary currency accounting (as in Ithaca or in Minneapolis), we should expect some enterprising Internet payment system service to provide the extra quality of secure, instantaneous payment service in a mix of different currencies used by their clients.

Some Questions

1- Can virtual communities agree on any currency system other than the commercially driven national currencies?

I believe that the explosive expansion of the cybereconomy is an important positive development. However, I also suspect that burgeoning virtual communities - perhaps the most interesting social phenomenon on the Net - will soon self-destruct if they become colonized by a monopoly of national currency systems. It would be a sad paradox to see the leading edge communities go the same way as most gift economies of traditional "primitive" societies have been in the past. If it is true that virtual communities are a substantial business opportunity, it would also be important for business itself that the way to develop that opportunity does not kill it.

2.- Most existing community currency groups are already active on the Net, but there are obviously many Internet participants who do not have a complementary currency operating in their area at this point . This is particularly true because the most active Internet country - the US - has also proportionally fewer community currency systems operational until now. However, I expect that during the next recession in the US, the number of complementary currency systems will take off in this country as they did elsewhere when unemployment crept up. The decentralization of the Federal welfare system also will propel specific systems (such as Time Dollars) into higher gear.

The strategic question is therefore: can an alliance be forged between Netizens and complementary currency activists?

Conclusions

"A true community is inclusive, and its greatest enemy is exclusivity. Groups who exclude others because of religious, ethnic or more subtle differences are not communities."

Foundation for Community Encouragement

One wish that a vast majority of people can agree upon is to re-build community. All the above examples confirm that implementing complementary currencies can significantly help in reaching that goal. I do not claim them to be a panacea, but they definitely have proven that they enrich our social toolkit to face issues raised by our Time Compacting Machine.

Another Way than Welfare?

Sometimes when confronted with this novel way to solve social problems, some people think it is just another new form of welfare. This is really a carry-over from the single-currency environments. and is not valid for complementary currency systems.

Welfare is a system that intervenes in the market system to transfer resources from the rich to the poor. This is typically done by taxing the rich in order to provide an income to the poor.

Complementary currencies are, therefore, *not* a new form of welfare. They use the market system every step of the way. It is voluntary for everyone; it does not require taxes or government subsidies, and - once started - becomes a completely self-funding mechanism to address many social problems.

Complementary currencies could someday *replace* welfare systems, or make some of them unnecessary, but are not a form of welfare themselves.

Chapter 7: Some Practical Issues

"When a great innovation appears, it will almost certainly be in a muddled, incomplete, and confusing form...
For any speculation which does not at first glance look crazy, there is no hope."
Freeman Dyson

"Chaos is creativity in search of form."
John Welwood

"The future is like everything else,
It isn't what it used to be"
Charles Kettering

It is not sufficient to invent or even implement a new currency. Because of money's central role in our societies, a lot of different and powerful organizations and people have their say in this domain. As long as the complementary currency movement has remained marginal, it may have been ignored by the powers-that-be, such as tax authorities or Central Banks. However, if this process goes mainstream as recommended here, if we want to use complementary currencies as a systematic tool to address the issues raised by the Time Compacting Machine, it would be unwise to just assume away the concerns and objections that these organizations may want to express. This chapter will address these issues

It will also identify some elements for a European social policy using complementary currencies, and provide some pragmatic advise for people who may be interested in implementing their own complementary currency project.

This material is organized under four headings as follows:

- Complementary Currencies, Legal and Tax Authorities
- Complementary Currencies, Central Banks and Inflationary Pressures
- For a European Social Policy Incorporating Complementary Currencies
- Some Guidelines to Creating Your Own Complementary Currency

Complementary Currencies, Legal and Tax Authorities

The short answer to the relationship between complementary currencies and both the legal and taxation system is that there are no insurmountable obstacles. However, a few more words are warranted to support such a blanket claim.

Are Complementary Currencies Legal?

Most countries in the world have no legislation making it illegal for anybody to "agree within a community to use something as a means of payment." On the other hand, most countries have also assigned the monopoly of "legal tender" to their banking sector under supervision of the Central Bank. All this means from a pragmatic standpoint is that you cannot force anybody to accept complementary currency to repay lawful debts, and that you should pay your taxes in the national currency.

The most complete study about the legality of complementary currencies was performed in the US by Professor Lewis D. Solomon from The George Washington University National Law Center. He has covered in exhaustive detail both the federal and state-by-state legislations concerning complementary currencies.[114] Specific legal warnings include that one should not use the complementary currency across state lines, and that the physical design of the complementary currency should look significantly different from the normal national currency design in order to avoid confusion. When these simple precautions are taken, there are no legal constraints on anybody starting their own currency.

I do not know of a similar systematic study for Europe or other parts of the world. But the unhindered proliferation of complementary currency systems all over the world confirms that they are not breaking any laws.

What about Taxes?

A general taxation rule is that it is not the currency used which determines whether a transaction is taxable, but the nature of the transaction itself.

Whenever an activity is performed on a professional basis (a plumber doing plumbing), most countries will consider it as taxable, independently of the kind of currency used. And the currency in

[114] Solomon, Lewis D.: A Handbook on Community Currencies (Barrington Mass.: The E.F. Schumacher Society, 1995)

which taxes need to be paid is the "legal tender", i.e. national currency. In contrast, if a transaction is simply people helping other people, most countries consider it as non-taxable. An important precedent has been set in the US, widely regarded as the toughest tax country in the world. Because of the predominantly social purpose, all transactions in Time-Dollars are now officially tax-exempt.

Yes, there are some people who may use complementary currencies as tax dodges. But these same people also illegally evade taxes owed on normal national currency transactions.

By the way, did you know that whenever you use a frequent flier ticket, in many countries - including the US - you are supposed to declare that also as taxable income? So, from this perspective the tax authorities consider such corporate scrip issued by airlines just another specialized kind of currency. Tax theory is ahead of economic theory in this case.

Finally, there are serious reasons, such as promoting local or regional sustainability, which would justify the use of local currency to raise local taxes. As at least part of a local or regional government function is to provide local or regional services, it could use the income raised to pay partially for such services in turn in local currency (sidebar).

> ***Sustainability and the Choice of the Tax Currency***
> Local governments who are in favor of promoting local sustainability at any scale often forget that the most effective tool used to destroy local sustainability has been the introduction of a national currency to raise local taxes.
> During the 19th century in Africa, when Britain decided to "open up" the local economies to British imports, it introduced a "hut tax" in national currency. The simple fact that each family unit was obliged to pay annually a tax denominated in national currency. also meant that it had to start earning an income in that currency, and therefore trade outside the local circles. The "hut tax" by itself was enough to attain in a few years time the objective of breaking up the local trading patterns which had kept the local economies self-sufficient for many centuries.
> ***
> A city or region which desires to improve its local sustainability, but keeps raising its local taxes exclusively in national currency, is like a doctor who claims to cure an alcoholic by drinking more alcohol.

Complementary Currencies, Central Banks and Inflationary Pressures

Central Banks as well as most people currently involved in the complementary currency movement have tended to ignore each other. The former have tended to disregard local currencies as "below contempt" because of their marginal status and scale. As for the latter, few community activists seem fully aware of the exact role and powers of Central Banks.

At the popular level, Central Bankers often have bad press. Particularly in the US, they are the favorite target for conspiracy theories, old as well as new one. Subtitles of some recent books on the topic attract their readership with these interesting innuendoes. For example, Steven Solomon's book has the tantalizing subtitle: *How Unelected Central Bankers are Governing the Changed World Economy.*[115] Or William Greider's *Secrets of the Temple: How the Federal Reserve Runs the Country*[116] , both implying secrecy and power. The exact role of Central Banks has been explained in the Primer.

However, combining power, secrecy, and an unpleasant outcome is bound to make the least savory interpretations flourish. Central banks would not be able to perform their current job of managing a nation's currency without some power and secrecy. The need for the third ingredient - the unpleasant outcome - is best described by Paul Volcker in his characteristic humor : "a Central Banker should get suspicious as soon as somebody is having too much fun somewhere." In other words, as inflation fighters, they are supposed to push on the brakes *before* the economy gets really good, and quite understandably neither the politicians nor the public like that.

Some of the brightest and most public-service minded professionals I have ever met were at Central Banks. However, they have both the power and history to snuff out anything as unorthodox as complementary currencies, as soon as too many people catch on to the idea. But this time there is a strong argument for them not to succumb to this reaction. There are now arguments proving that Central Banks have in fact an interest in tolerating - and in some circumstances even supporting - well designed complementary currencies.

Central Bank Reactions to Complementary currencies

Historically, Central Bankers have reacted to local currencies in three different ways:

1. Most of the time -- as long as they remain marginal, including now -- they have simply ignored them as "below contempt".
2. Whenever they have become "too successful" for whatever reason, they have suppressed them by legal recourse if needed (this is what occurred in the 1930s in Austria, Germany and the US, as was shown in Chapter 5).
3. For the first time, one Central Bank -- the one in New Zealand -- has gone exactly the other way by not only tolerating them, but seeing them as a device to reduce unemployment while keeping a tight rein on inflation in the national currency .The reasons for this important exception will

[115] Solomon, Steven: The Confidence Game: How Unelected Central Bankers are Governing the Changed World Economy (New York: Simon and Schuster, 1995)
[116] Greider, William Secrets of the Temple: How the Federal Reserve Runs the Country (New York: Touchstone, 1987)

explain why I claim that Central Banks have actually now an interest in accepting well-designed complementary currencies, even from their own perspective.

At this point, the vast majority of Central Banks may not even have noticed the phenomenon -- the current developments are still below the radar beam of the official system. But that is just a matter of time. If the Information Age creates more structural unemployment and, therefore, more demand for complementary currencies, and as new technologies will soon increase the means to implement them, an explosion of complementary currencies should be expected.

From a Central Bank viewpoint, the critical concern is the relationship between complementary currencies and inflation. If large-scale use of complementary currency fuels inflation, legitimately they should block such development. However, if complementary currencies are not creating inflation, they should not. My thesis here is that *well-designed complementary currencies do not contribute to inflation, and can even be used to reduce inflationary pressures on the national currency.*

The main difficulty in thinking about inflation in the context of complementary currencies is that everything we have learned from the economic or monetarist perspective assumes implicitly that there is only one single currency system in a country. For example, within that frame of mind, the appearance of a second complementary currency may be interpreted as a simple local increase in money supply. All economists would immediately understand why such a process would create employment, but also (erroneously) conclude that complementary currencies would automatically add to inflationary pressures on the economy as a whole.

This reasoning would be valid if and only if the complementary currencies were all *fiat* currencies as are the dollar, the Euro or any other national currencies of today. There is indeed one type of complementary currency (the Ithaca HOUR of Chapter 6) which is such a fiat currency, and which could pose such a risk if it became in widespread use. However, it will be shown that other designs, including all mutual credit systems (e.g. LETS, Time Dollars) *do not contribute to inflationary pressures*.

Rather than argue from theory to prove this point, let us take three practical examples of increasing complexity.

In the case of simple barter exchanges, where no currency is involved at all, the only effect of such an exchange is who owns what. No inflationary pressures are arising from barter exchanges given that the overall quantity of goods and currency in circulation remain unchanged.

In the case of mutual credit systems (e.g. LETS or Time Dollars) the situation is in some respects similar to barter, because for every credit generated there is a simultaneous creation of a debit within the same community of consumers. The *net* amount of currency in circulation is therefore still the same, exactly as in the case of straightforward barter. In fact, from a monetary perspective, mutual credit systems simply facilitate multi-lateral barter, and have the same overall effect as a group engaging in triangular or multi-lateral barter.

In the case of well-designed integrated payment systems -- such as the Minneapolis Community Exchange Network system which was presented in the previous chapter -- the argument is a bit more complex. In that case the currency is being issued in proportion to the spare capacity of the businesses participating in the system. The existing precedent is the well-known corporate scrip issued by airlines, the so called frequent flier miles.

Does issuing frequent flier miles increase the number of times a passenger will fly? The answer is, of course, yes.

However, does it create inflationary pressure on the airline airfares? The surprising answer is no. Not because the marginal cost for an additional passenger is practically nil (which is why they give these free tickets in the first place), but because any airline manager worth his or her salt will ensure that anybody using the free frequent flier ticket is sitting in a seat that would otherwise be empty. That is why there are restrictions such as “no frequent fliers on Christmas or holidays, or on this route on week-ends,” etc.

This is exactly what happens with the Minneapolis C$D issued. A restaurant could accepts 50-50 national currency- complementary currency before 7 p.m. So there is no inflationary pressure on the restaurant’s prices, because it just uses space that would otherwise remain idle. In a competitive market, a restaurant would theoretically be able to afford to increase prices only when operating above capacity. *This feature of enabling the businesses themselves to better manage the problem of their excess capacity - from a theoretical inflation control viewpoint - is one of the intriguing aspects* *of the complementary currency approach.* Within a single-currency environment there is no easy way for the businesses to differentiate among customers to improve the use of their spare capacity in order to increase their productivity. For instance, what tends to happen with discount offers is that they end up cannibalizing the income from normal national currency customers.

This is not to say that the problem of inflation has been solved with this process. But we have shown at the very least that the normal monetary equations mislead us whenever complementary currencies instead of a single national currency are involved. It is clearly another game.

One could even argue that it will be possible to reduce inflation risks if well-designed community currencies are encouraged in an economy. That this is not just theory is demonstrated by the case of New Zealand. One would expect Central Bankers to react with suspicion when complementary currencies are appearing. The Governor of the Central Bank in New Zealand has an unusual contract with government. It stipulates that the Governor will automatically lose his job if the inflation rate on the national currency exceeds 2.5% per annum. This stipulation is one of the many original initiatives created when New Zealand decided to modernize its social and institutional systems a decade ago.

This contract has the advantage of concentrating the mind of the Governor on the main objective of his job: keeping inflation in control. The New Zealand Central Bank suddenly discovered that complementary currencies are *useful* to attain its inflation control objective. If in the pockets of highest unemployment people create a complementary currency to alleviate their own problems, then the political pressure to drop interest rates and potentially fuel inflation would also be reduced. Suddenly, the first Central Banker in favor of complementary currencies was born....

Central Banks whose main objective is to keep inflation in check, rather than to protect by principle or monetary dogma a monopoly of currency issuance, then a conclusion similar to the one in New Zealand should prevail.

Why New Zealand is right

There are several significant reasons to claim that the New Zealanders are on the right track. Several of these reasons are new: they reflect a changed political and technological environment.

The issue of geographic scale for monetary policy.

Let us assume for a moment that Governor Greenspan of the Federal Reserve becomes responsible for the economic well being of the poorest depressed area in Washington DC, instead of the country as a whole. Would he follow a different monetary policy than the one he does today?

He definitely would, and justifiably so.

One of the main problems when a Central Bank has to make decisions about the money supply is that they need to look at the economic situation over the entire country. From this perspective, what complementary currencies enable us to fine tune the medium of exchange to the local needs. This is why the New Zealanders and Australian governments are involved in creating complementary currencies in the worst unemployment areas of the country.

Information Age unemployment

Monetary policy has been one of the main tools used to counteract the effects of the well-known short-term business cycle over the past half century. Some specialists - most prominently Milton Friedman from the Chicago School of Economics - have claimed that Central Banks have miserably failed in attempting to do just that.

But if today's unemployment issues are the result of a structural adjustment to the new production technologies of the Information Age, this puts us in a very different ball game. If this is correct, *all monetary schools*, not just Milton Friedman, will end up concluding that the traditional ways to fine-tune the economic cycle just will not work anymore.

Central Banks have interest in experimenting with new ways to solve this problem. It is clearly what New Zealand has decided to do, and it picked the right tool to do it. Historically, complementary currencies are the only tool that has proven to have worked when the situation was at its worst, like it was in the 1930s. Today, with the new information technologies and what we already know about the way complementary currencies operate, we can make such experimentation safer than ever before.

Back to the Future of Private Money?

History shows that it is easy for Central Banks to stamp out local community currencies. However, trying to protect the money monopoly in this way may resemble killing a measly fox to protect the chickens, while leaving a hungry pride of lions roaming around. A revealing sign that the official national *fiat* money may not have all the answers has been the large-scale reappearance of barter in national and international exchanges. Conventional wisdom - in this case dating back to Aristotle[117] - claims that barter is just a primitive form of trade which has no role in a developed economy. The postwar version of this practice, starting in trades with the Soviet Union or the Third World, was therefore initially attributed to the lack of hard currencies in these countries. However, this cannot be the real reason, because even in hard currency countries the process has suddenly been growing even faster. For instance, in 1992 there were already 520 barter exchanges in the US with thousands of members each. Several of the largest of these systems are going to go live on the Internet from 1999 onwards. Before this Internet expansion, the value of barter transactions in the US and Canada totaled almost $6.5 billion in 1994, and is increasing three times faster than normal exchanges. The magazine "Barter News" covers the industry's development and now has 30,000 subscribers. [118] It estimates the total barter at $650 billion in 1997, and now growing at an annual rate of 15%.

In Canada, the appearance of Mirville Tremblay's sophisticated barter-credit cards shows that this process may actually go beyond exceptional transactions, and become a successful payment system in routine daily economic activities. The Federal Office of the Regional Development of Quebec has given its formal support to this initiative.[119] That all this is not a fashionable fluke is confirmed by the growing literature on economic theory about how new information structures will make barter trade a trend of the future. [120]

Even more directly relevant for Central Banks than barter is the following observations by *The Washington Post:*

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[117] Aristotle wrote the oldest known text explaining the "natural superiority" of money over barter exchanges.

" When the inhabitants of one country became more dependent on those of another, and they imported what they needed, and exported the surplus, money necessarily came into use. The various necessaries of life are not easily carried about, and hence men agreed to employ in their dealings with each other something that was intrinsically useful and easily applicable to the purposes of life; for example, iron, silver and the like. Of this the value was first measured by size and weight, but in process of time they put a stamp upon it to save the trouble of weighing and to mark the value"
Politics , I, iii

[118] Applegate, Jane "Firms learn to be creative in bartering" Los Angeles Times (Friday, March 19,1993)

[119] Tremblay, Mirville "La carte de crédit-troc: une solution a nos problèmes économiques Policity Options (Montreal, Canada) March 1994 pgs 19-23 or Joyal, Andre "Entrevue of Miville Tremblay, concepteur de la carte de credit-troc" Agora (Quebec, Canada, mai 1995 pgs 10-13.)

[120] See for instance Amann, Erwin & Marin, Dalia "Risk-sharing in international trade: an analysis of countertrade" The Journal of Industrial Economics Volume XLII (March 1994) pg. 63-77. Williamson, Stev & Wright, Randall "Barter and Monetary Exchange under Private Information" The American Economic Review March 1994 pgs 104-123 Taurand, Francis "Le troc en Economie Monetaire" L'Actualite Economique, Revue d'analyse economique Vol 52 numero 2, Juin 1986.

"In fact, one of the most intriguing financial phenomena of this decade will be the inexorable rise in the importance of 'private money' issued by companies to lock their customers into their 'economic systems'. Once upon a time, this kind of private money - or scrip - was associated with railroad towns, the armed forces and the Great Depression. Today, think of these shadow currencies as the 'scrip of the elite'. While Walt Disney, or say, American Airlines won't have its own Paul Volcker or Alan Greenspan, these companies are going to be just as careful about managing 'money supply' and 'inflation rates' as their Fed counterparts. Just as the global economy has become more integrated over the past 20 years, America's shadow economy of frequent-flier, frequent-caller and frequent-purchaser programs are also blending seamlessly.

The issue is no longer individual or frequent-purchaser programs to buy brand loyalty - it's the gradual fusion of these plans to create a new kind of consumer-credit economy. It's only a matter of time before a new generation of 'central bankers' emerges to coordinate the exchange-rate issues. Citicorp credit card holders can 'buy' frequent-flier miles on American Airlines as well as hotel and rental car discounts. Selected American Express card holders can buy 'membership miles' on other frequent-flier programs or purchase phone time on MCI or Sprint via the Connect-Plus programs. Corporate Scrips - frequent-flier points and frequent-traveler credits - are becoming ever more convertible to one another. This is an economy that is now worth billions - and growing.

"In the customer's mind, it may well be currency," said Alfred J. Kelly Jr., vice-president of frequent-traveler marketing at American Express Travel Related Services. "There is no question that you'll see more partnerships between organizations as they try to provide additional value to customers. We're trying to create segment-specific programs that not only provide value to our customers but also instill loyalty to us and our partners."

For example, Kelly noted, if American Express customers want to have "convertibility" between Membership Miles credits and Connect-Plus, that's something Amex's 'central bank' might be prepared to arrange. All of a sudden, Amex credits begin to rival dollars as a means of payment to purchase both travel and communication. Private currencies are on the rise not just because companies are pushing them, but because they are what the customers want. If the ruble can be convertible, why not the American Airlines frequent-miles program?

Indeed, as sophisticated information technology continues to seep through the economy, the ability to grow and manage private currencies increases. It becomes both cheap and easy to track individual purchases and credits. "Just as people try to manage their credit cards, they will soon be managing their 'credits' to handle a variety of shadow currencies."[121]

What will a Central Bank do about such private corporate scrip, or those that will appear on the Net- such as the already available NetMarket currency of Cendant ?
Should we not recognize that the Information Age has already created a much more fundamental question about the way national currencies will play their role in the future? The danger is that Central Banks may be tempted to clam down on what they can reach (i.e. the small scale, politically unprotected complementary currencies) rather than tackle the big changes which are politically better protected (i.e. corporate currencies).

An Appeal

The biggest threat to the experimentation and successful resolution of the issues revealed by the Time Compacting Machine through the creative use of work-enabling and/or community currencies is that their continual growth will be interpreted as a dangerous and contagious phenomenon by Central Banks.
The Central Banks have the power to crush these complementary currencies, and/or could muster the legal backing to enforce this power.
One of my reasons for writing this book was to make the case for Central Banks not to follow their first technical instincts in this particular case. There is more at stake here than meets the technical eye. This is a time where public service may require us to rethink business as usual.is to make an appeal to Another reason is to request the academic community to start evaluating the implications of multiple and, particularly, complementary currency systems. This is somewhat virgin territory, and we need a lot more knowledge about how dual currency systems (whether they are local or corporate scrip) will affect our economic processes. Part of the complexity is that each currency creates a market allocation system in its own sphere of activity, but in addition, they all interact in the same marketplace.

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[121] Schrage, Michael : "Frequent-Purchaser Programs Emerging as the Currency of the 90's" The Washington Post, Friday, July 10,1992

In contrast, multiple national currencies did not do that. Each country had its own privileged market area where its national currency reigned alone. The classical work done about multiple currencies within the same country, such as Gresham's laws, suppose that one of the currencies is 'good' and the other 'bad', but what happens when both are 'good' within overlapping market segments? This is one of the many fields today where "there has been an alarming increase in things we know nothing about."

What is at stake is quite substantial. If the cooperative economy is squashed -- as it has been repeatedly in the past -- we will be condemned to choose between two comparatively unpleasant possible futures: Hell on Earth or the Corporate Millennium. If on the other hand social experimentation with complementary currencies is allowed to happen, I believe we are half way to Sustainable Abundance.

How to Start Your Own Complementary Currency

The hard part of creating currency is not conceiving a new variation of complementary currency, nor even starting it. The hard part is having it ***accepted*** and ***used*** in your community. The national currencies have indeed history and habit on their side, not to speak of the law as "legal tender for all debts public or private". Your local currency does not have these factors on its side, so it requires credibility of another nature.

Like for all currencies, the bottom line of what is most needed is credibility -- without it nothing will happen. There are three keys to a successful implementation of the complementary currency system.

Three Keys to Successful Implementation

There are three key ingredients in the successful implementation of a complementary currency system: good timing, quality of local leadership and a valid design. A few words about each follows.

Good Timing

The Greeks had a special word for it: *Kairos* ("perfect time") which they distinguished from just ordinary *Chronos* (time). The same initiatives by the same people can have very different results depending on timing. These "good timing" can be positive or negative.

For instance, as mentioned earlier, sudden increases in unemployment have created perfect timing for the rapid expansion of the complementary currency movement in Britain and France. The shocks to the national currencies in Argentina or Mexico has been the reason for the creation of complementary currencies in these countries.

On the other hand, the "right moment" may be simply the coalescence of the right group of people who decide to do something positive for their community, which brings us to the next key ingredient.

Quality of Local Leadership

Perhaps the most important factor to start a local currency is local leadership. Someone, or some group, is needed with the combination of vision, entrepreneurial capability and charisma. Vision to actually imagine that another way is possible, and to adapt whatever model is used to local circumstances. Entrepreneurial capability to decide to do something about the situation, and be effective at it. And finally, charisma to convince your community to follow you. If one of these three leadership characteristics is missing, it ends up as either "just talk" or a failed project, of which there are many. However, when these three capabilities are gathered in one team, they can generate the credibility that is crucial for a successful complementary currency system.

Remember, money ultimately is about trust, and thus about the trustworthiness of the people who will be promoting the system. It will also automatically determine the scale and nature of the project that becomes possible. If the leadership has credibility only over a small area of town, work at that scale. If it has the capacity to mobilize a whole region, then a complementary currency system of the size of the region becomes possible.

To conclude with this aspect, Lao Tzu's comment is particularly relevant for grass-root movements "The best leadership is when at the end people claim they did it themselves."

Valid Complementary Currencies Design

The last critical step is to choose among the wide variety of complementary currency systems that are available as prototypes today, the one that best fits your own requirements. The following table should help in such a selection. It provides a synthetic overview of the main characteristics of various currency systems reviewed so far.

	Unit	Issuance	Details	Main Benefit
National Currencies	US$, Euro, Yen Pound (mediated via US$)	Fiat currrency issued by Banks, supervised by Central Bank	Debt-based Bearing interest	Legal Tender
LETS	1 Green $ = 1$	Mutual Credit	Most prevalent Current System	Easy pricing (because unit = $)
Time Dollars	Hour of Service	Mutual Credit	fixed exchange rate: 1 hour = 1 hour	Simplest System
WIR	1 Wir = 1 SF	Mutual Credit + Loans from Center	Fiat Currency	most mature system ($2 Biillion /year)
Ithaca HOURS	1 HOUR = $10	Fiat Currency issued by community Potluck" Center	Quantity must be managed	Ease of Use (paper bills)
Japanese Healthcare	Hour of Sevice	Non-profits Local governments	National Clearing House	Caring Service at no taxpayers' cost
Tlaloc	1 Tlaloc = 1 Mexcican Peso	Mutual Credit	Issuance by cheques	Low tech (no computer or telphonee needed)
ROCS (RObust Currency System)	Hour of Service	Mutual Credit	Negociated exchange rate Demurrage Charges	Synthesis of most Robust features

Figure 7.1 Comparative Table of Various Currency Systems

The only new complementary currency system in this table is the ROCS (Robust Currency System) which synthesizes the most robust features of all the different systems. It is designed to be able to resist best any shocks in the monetary system, and will be described in more detail at the end of this section.

Each of these systems has characteristics which can be considered as advantages or defects depending on the circumstances. For example, tying the unit of the complementary currency to the national currency (as is the case for LETS, Wir and Tlaloc) has the advantage of making pricing easy for everybody including merchants, given that any product or service has the same numeric value assigned in both currencies. On the other hand, if the national currency gets into a crisis, the value of the complementary currency would depreciate in parallel. In this sense, the complementary currency's role as backup system, as "spare tire", is clearly less effective.
Depending on your priority, it may make sense to choose a currency that ties in with the national one, or one that does not. In the latter case, the unit that makes most sense is the hour. The hour is a universal standard, and almost all systems which do not tie their unit to the national currency are using it.

Another key decision is whether to use a fiat currency model (as Ithaca HOURS or WIR) or a mutual credit system (as LETS, Time Dollars, Tlaloc, or ROCS). There are two important reasons why mutual credit system will generally be preferable, particularly for systems that are designed to be able to be scaled up or replicated in large numbers. The two reasons are the following:

1. All fiat currencies by definition are issued by a central authority, whether it is a “community central bank”, an individual person or a committee. The trickiest decision -- as all Central Bankers will confirm -- is to decide how much currency to issue. If too much is issued, inflation in the currency will be an immediate result, and people will resist accepting it. If too little is issued, the complementary currency can only perform part of its function.. In contrast, the main advantage of mutual credit systems is that the quantity of money is always perfectly self-regulating. As participants themselves create the currency at the moment of each transaction, there is by definition always the exact quantity in circulation. Furthermore, this quantity will automatically reduce as people engage in transactions in the opposite direction of their initial trade (i.e. someone who had a credit in one transaction, and uses the credit to purchase a good or service brings the balance back to zero). This self-regulating feature is important, because it eliminates the most tricky and treacherous decision in complementary currency management.
2. The second reason is strategic. As mentioned above, the biggest danger to the complementary currency movement is a repression by Central Banks, as has happened in the 1930s. Central Banks have a legitimate role in keeping the inflation rate on the national currency in check. If there was a proliferation of fiat complementary currencies, this would indeed potentially impact the management of inflation on the national currency, as we saw in the section on Central Banks above. Mutual credit complementary currencies do not pose such a threat, and therefore could grow in importance over time without interfering with the Central Bank duties.

We are still in the very early days of the Information Age, and it is definitely too early to determine which is the “ideal” complementary currency system. Creativity and experimentation should therefore be encouraged. My personal favorite complementary currency system is the ROCS, because it brings together all the best features that provide robustness to the system. As of this writing, this currency has not yet been implemented to my knowledge.

Its choice of the Hour as unit of account makes it pretty universal, and safe against shocks to the national currency system. Its mutual credit aspect eliminates the risks of over-issuing that is intrinsic to all fiat currencies. What differentiates the ROCS from Time Dollars is that the rate of exchange of the hour is negotiated between the participants. Some people may consider that all people's time should be equally valued. But this is utopian, as in practice it simply means that people whose services are significantly more valuable in the "normal" market place, like dentists or surgeons, simply will not accept Time Dollars in exchange for their services. .
Finally, ROCS would include the demurrage feature for reasons explained next.

Some Technical Lessons from the 1930's usable today

One of the more interesting features successfully tested in hundreds of cases in the 1930's (including Wörgl described in Chapter 5) - which have not been copied in the more recent systems is the idea of demurrage. This feature has nevertheless some very important and desirable effects.

One pragmatic disadvantage experienced in today's complementary currency systems is that they typically have to depend on continuous sales efforts by the originators of the system. Many systems have simply died when the originators got tired of performing this task on a continuous basis. When a time-related demurrage system is used, every participant in the system becomes automatically a motivated sales person.

It should also be mentioned that there have been valid technical criticisms to the stamp scrip process of the 1930s. Handling stamps is inconvenient for everyone involved. Furthermore, there was a tendency in the 1930's that the day before a monthly stamp was due, shops would suddenly get a massive inflow of the stamp scrip from people who preferred not to pay the stamp themselves. Weekly stamps were designed to reduce that tendency, but it still happened on a smaller scale.

However, with today's computer technologies, both of these inconveniences can be easily and efficiently eliminated . The vast majority of complementary currency systems today are computerized. It would be very simple to apply a small, continuous, time-related charge on all balances (credits *and* debits) in the list. For example, one could impose a charge cumulatively equivalent to 1% per month or more on a daily or even an hourly basis. With smart cards technology, this can easily be built into the card program itself.

For most of today's applications I would recommend a charge in the order of 1% per month. Much lower values would probably have no effect on behavior patterns. Much higher ones could make the demurrage feature a reason for people to refuse to accept the currency. Some experimentation would be justified to fine-tune this aspect.

One last reason to apply demurrage to currency systems is that it also helps in switching the attention to longer term concerns. The next chapter will develop that aspect of demurrage in full detail.

Chapter 8: A Global Reference Currency - Making Money Sustainable

-"Senator, the 'Survival of the Planet' people are here to meet you"
- "Oh, I hate dealing with those single-interest groups!"
Cartoon by Bob Thaves (newspaper enterprise Association Inc.)

"NO PLANET, NO BUSINESS."
Bumper sticker

"Faced with widespread destruction of the environment, people everywhere are coming to understand that we cannot continue to use the goods of the earth as we have in the past. A new ecological awareness is beginning to emerge, which rather than being downplayed, ought to be encouraged and developed into concrete programs and initiatives."
Pope John II

"It's good business to anticipate the inevitable, and it seems to me inevitable, whether we like it or not, that we are moving toward an economy which must be limited and selective in its growth pattern. The earth has finite limits - a difficult idea for Americans to adjust to."
John D. Rockefeller III

"On the bleached bones of dead civilizations are written the words: 'too late'."
Martin Luther King Jr.

"Socialism collapsed because it did not allow prices to tell the economic truth. Capitalism may collapse because it does not allow prices to tell the ecological truth."
Øystein Dahle, former Exxon vice president for Norway and the North Sea

"The main thing we miss today is universal money, a standard of value, a link between the past and the future, and the cement linking remote parts of the human race to one another."
Robert Mundell, Nobel Laureate in Economics, at his acceptance speech in December 1999.[122]

[122] Wall Street Journal, Oped page, December 10, 1999.

One last time, we will play our game of "tell me what your objectives are, and we can design a currency that supports it." This chapter deals with one last "money question"; i.e. *"how can financial interests become compatible with long-term sustainability*?" Another way to ask the same question: is a win-win approach possible for finance, business and society?

This issue may be the most important because even the survival of our own and many other species is at stake. As prominent French monetary theorist Jacques Rueff claimed *"Money will decide the fate of mankind."* [123] Will we have to see the last fish die, or the last rainforest cut down, before we realize that we will not be able to eat money?

It is presented in this late chapter because -- in contrast with the new currency designs presented in the previous chapters -- this proposal breaks new ground and has therefore no contemporary case to demonstrate it.

Some Questions for CEO's

If you are a CEO or know one, obtain honest answers on the following two sets of questions:

1. Will there be more monetary crises?
2. Do such monetary crises affect your business?
3. What do you plan to do about it?

4. What is the time horizon you use to plan for your children?
5. What is the time horizon you use in your business?
6. What world will your and all other businesses leave to your children, given the difference in time horizon between question 4 and 5?

If the answers to these questions raise concerns, then the Terra project described in this chapter is for you.

This chapter starts with a brief status report on both the positive achievements of the Industrial Age and its negative impact on "Biosphere Earth." This balance sheet makes clear the relevance of the question identified above.

Next, the limits of being able to convince business to do things which are not financially motivated ate identitied. ("Three Tools of Persuasion").

Then I'll show the direct relationship between one particular feature of the official national currency system - namely interest - and the phenomenon of short-term vision of the business world and Western society at large. A solution to the dilemma is then proposed both as a metaphor ("Far-Seeing Glasses") and as a sound technical possibility.

[123] Title of Introduction of Rueff, Jacques The Age of Inflation translation by A. H. Meeus and F.G. Clarke (Chicago: Henry Regnery Co., 1964)

Long-term Sustainability

There is a growing consensus that our current path is unsustainable. It has become unsustainable ecologically, socially and politically.

After a lifetime of study of the causes of the demise of civilizations, historian Arnold Toynbee concluded that only two common causes explain the collapse of twenty-one past civilizations: extreme concentration of wealth and inflexibility in the face of changing conditions. Over the past decades our civilization seems to have embarked on a path combining *both* those causes of collapse. But before showing the role of the money system in these issues, one should first look at the positive side of the ledger as well.

Positive Results of the Modern Money system

We should start by acknowledging that the Modern monetary system has played a key role in the extraordinary achievements of the Industrial Age.

If you want to industrialize, you need to concentrate enough resources for industry. Steel factories are not built on a small scale in a backyard -- the Chinese tried and failed as late as the 1970's. And to concentrate resources - to paraphrase Churchill's quip about democracy - competition among private players is the worst system, with the exception of all others. Would you prefer to buy your next car, meal, or computer from *non*-competing producers?

This system has definitely been effective at instigating and propagating the Industrial Age around the world.

The truly exceptional achievements of the Industrial Age can best be appreciated by observing its impact on our species as a whole. Human life has been totally transformed by the process of industrialization. Just to bring into perspective what is so unique about the last two and a half centuries, consider the following graph. (Figure 8.1)

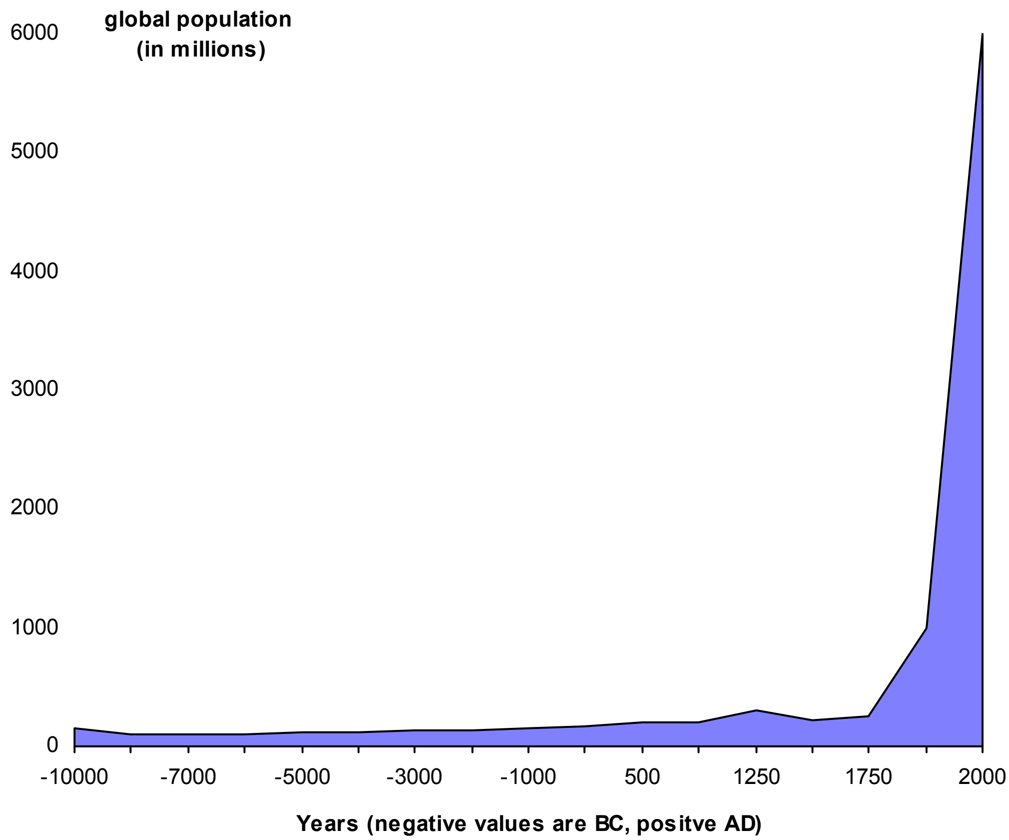

Figure 8.1 World Population (in millions)[124]

The human population remained below the level of 400 million almost forever. There were actually several periods with significant population *decreases*: roughly from 10,000 to 8,000 BC, and at the end of the Middle Ages, when the Black Death took out at least 75 million people (including about a quarter of the European population). Human population grew to one billion for the first time during the first half of the 19th century. Then it took off.

We reached the second billion in 1925, the third in 1962, the fourth in 1975, the fifth in 1986, and the sixth in 1999. At this point it is clearly good news that the *rate* of growth has started to taper off. Most experts forecast that we are now doubling for the last time. We should attain the seventh billion in 2009 and the eighth billion in 2019. Global population is supposed to stabilize around 10 to 12 billion some time around the middle of next century.[125]

124 Estimates by Edouard Parker, presented in Sunter, Clem The High Road: Where are we Now? (Cape Town: Tafelberg, Human and Rouseau, 1996)
125 McKibben, Bill "A Special Moment in History" Atlantic Monthly (May 1998)

What has made this population explosion possible (again for better *and* for worse) has clearly been the Industrial Revolution, when human and animal force was replaced for the first time by fossil energy. The production of goods follows an even steeper curve than the population. Gross Domestic Product (GDP) *per capita* in the developed world multiplied by a factor of 20 between 1800 and today.

The standard of living has soared from bare subsistence to what our ancestors would have considered extraordinary affluence for many people in Europe, North America, and industrialized Asia. These are immense accomplishments which, whatever drawbacks they may entail, should still be recognized.

However, there is also another side to this balance sheet, which should be looked at squarely as well.

Status Report on Biosphere Earth

Until last century, Nature was perceived as a big, powerful, awe-inspiring force on which humans had very little if any impact. This has now dramatically changed. In 1996, the World Conservation Union, in collaboration with more than 600 scientists, published the most comprehensive survey so far on the status of animal life on earth. Their conclusion: 25% of mammal and amphibian, 11% of birds, 20% of reptiles and 34% of fish species surveyed so far are threatened with extinction. Another 5% to 14% of all species are "nearing threatened status." A 1998 survey concluded that 6,000 tree species, ten percent of all existing tree species, are now endangered as well.[126]

A report released by the United Nations in September 1999 based on assessments by 850 specialists around the world is that the rate at which humanity destroys the biosphere is still accelerating. "The full extent of the damage is only now becoming apparent as we begin to piece together a comprehensive overview of the extremely complex, interconnected web that is our life support system"[127]

My personal balance sheet of all the above can be summarized in three points as follows:

- *The encouraging results on the positive side prove clearly that* ***we can reverse the ecological degradation*** *process if we so choose, but our window of time to do so is closing down.*
- *The* ***means used to encourage businesses and people to do so (i.e. mostly regulation and moral persuasion) are too narrow in both geography and scope to achieve sustainability.***

[126] BBC World Report August 24, 1998.
[127] Klaus Toepfer, head of the the UN Environmental Program in the Report presentation in Nairobi.

- *Finally, the rest of this chapter shows that a **change in our money system offers a pragmatic possibility to harness the massive energy of the global economy toward long-term sustainability**.*

The Three Tools of Persuasion

Why change our monetary system to attain long-term sustainability? Isn't there a more direct way to attain this objective?

There are only three ways to persuade people or institutions to engage in any non-spontaneous change in behavior:

- education and moral persuasion;
- regulation;
- and financial interest.

Over the past decades, as people started focusing on the issues of the environment, the first two ways have been emphasized almost exclusively.

History has shown that whenever financial interests contradict regulations, financial interests end up almost always as the winners. The permanent and mostly losing battles to enforce anti-smuggling or anti-drug regulations provide many case histories of what we should expect by relying exclusively on a regulatory approach.

Similarly, whenever financial interests run up against moral pressure, the battle is often even harder. Many people just decide that they either cannot afford, or do not care enough, to follow the moral advice when it personally costs them something..

It is apparent that large-scale changes in behavior should only be expected when all of these motivating forces are lined up in the same direction. For instance, recycling glass bottles or aluminum cans has become really effective whenever there were simultaneously:

- regulations requiring people to recycle;
- a public information campaign about the reasons to do so;
- and last but not least, a refundable deposit of 5 or 10 cents per unit.

In short, *the realigning of financial interests with long-term concerns is a* ***necessary condition****, but not a sufficient one, for a truly successful sustainability strategy.*

The importance of realigning financial interests with long term sustainability is even more critical because many of the issues involved need to be addressed on a global level (e.g. global climate changes, acid rain, ozone layer, etc.) or it just won't make much of a difference. And there is little chance that we can regulate or morally persuade the whole world. For example: by the year 2015, the Chinese are planning to emit as much carbon dioxide by themselves as the whole world does today. This forecast is based on coal-fueled electric power plants currently being built or already on the drawing boards in China. What can we do?

The well-known architect William Mc Donough claims that *"Regulation is a signal that you have a design failure."* He asks the question: "Who is in charge of a ship?." The answer is the designer, who has already built into the ship ninety percent of what the captain can do. I claim the same is happening to the business world: the design of the money system is pre-ordaining ninety percent of the investment decisions made or not made in the world. And *regulations aiming at sustainability just try to correct the flaws built into our money system*. Furthermore, regulations have proven so far mostly ineffective in reaching that goal.

Our economics textbooks claim that *corporations and individuals are competing for markets or resources. In reality, they compete for money, using markets and resources in this process.* If we were able to redesign money in a way that favors long term vision, we could harness the massive resources of the global corporations in a direction of a more sustainable future.

Relationship between Money systems, Time Perception and Sustainability

Monetary specialist or Greens alike typically do not see any connection between the money system and sustainability. What follows will show that this is in fact an oversight.

The gentlest way to acquaint ourselves with that connection is through another short fairy tale for my godchild.

The Man with the Near-Seeing Glasses

(Fairy Tale for Kamir, 7 years old)

Once upon a time, in a very near place, there was a man who had been wearing glasses for so long that he even forgot he had them on. The main problem, however, is that his glasses, instead of correcting his vision, were making him so near-sighted that he couldn't see anything further than his nose.
So he would bump against everybody or everything because they would always suddenly appear to him without warning, when it was too late to avoid the obstacle. He was getting worried enough about the problem that he went to consult a Scientist.

The Scientist listened to the problem carefully, then pulled out a very thick book about Optics filled with equations and diagrams. And he showed him that it was very normal that he would see better closer-up than far away. He explained something about the number of light particles decreasing by the square of the distance from which he saw them. The Man with the Near-Seeing Glasses did not quite understand the explanation, but he was very relieved to hear that there was a scientific reason which made it all very normal.

So he went on bumping against people, trees, even his own green front door and everything else which popped up suddenly when he was hitting them with his nose. After he hit a particularly hard red brick wall with his forehead, he was getting worried again and felt depressed about all the bumps he kept collecting. So he went to see a Psychiatrist.

The Psychiatrist told him to lie down on a big couch, and started asking him a lot of questions - how he got along with his father, with his mother, and his brothers and sisters. After he answered all these questions, the Psychiatrist told him that it was very normal that he was depressed, and asked him to come back every week for some in-depth treatment about all that.

One day, much later, as the Man with the Near-Seeing Glasses came back from his appointment with the Psychiatrist more depressed than ever, he bumped against his little five year old granddaughter who was waiting for him in front of his house. He was very happy to see her again, and they went in the house to play together.

As the little girl was playing horsy on her grandfather's knees, she suddenly grabbed for the horse's bridle and ripped off the Near-Seeing Glasses from her grandfather's nose. Just as suddenly the Man discovered that he could see much further than his nose after all. His granddaughter's smiling face was clear. The green door he'd smashed into last week was clear. He even noticed that the red brick stone wall needed some repairs where he had hit his head. Seeing things beyond his own nose before bumping into them made a lot of sense after all.

We can now rephrase the relationship as follows: interest rates create a built-in tendency to disregard the future, to create a worldview with "near-seeing glasses.". Furthermore, the higher the interest rate, the more that tendency prevails

We have seen in Chapter 2 how interest rates are deeply woven into the very process of creating money in our prevailing money system.

Understanding the relationship between interest rates and time perception will be accomplished in the three following steps:

- comprehend how capital allocation decisions are generally made through the financial technique of "Discounted Cash Flow";
- how such discounting of the future is one of the key underlying causes which create a direct conflict between financial criteria and ecological sustainability under our present money system;
- and how the discount rate used in the Discounted Cash Flow technique is directly affected by the interest rate of the currency used in the cash flow analysis.

"Discounted Cash Flow" = "Discounting the Future"

"Discounted Cash Flow" is the technique generally used to financially decide on whether to invest in a given project, or comparing different projects among each other. It is presented in full detail in any Finance textbook.

What we need to understand about it here can be explained by a simple example. Let us assume that a particular project requires a $1,000 investment today, and that it will produce a net profit of $100 on the first day of each subsequent year for the next 15 years. Let us further make the assumption that there is no inflation during that period of time. Figure 8.3 shows what the real cash flow of that project would look like: it starts with a negative -1,000 when the cash outflow occurs today, and for each of the next 15 years we have the same amount of $100 shown on the positive side.

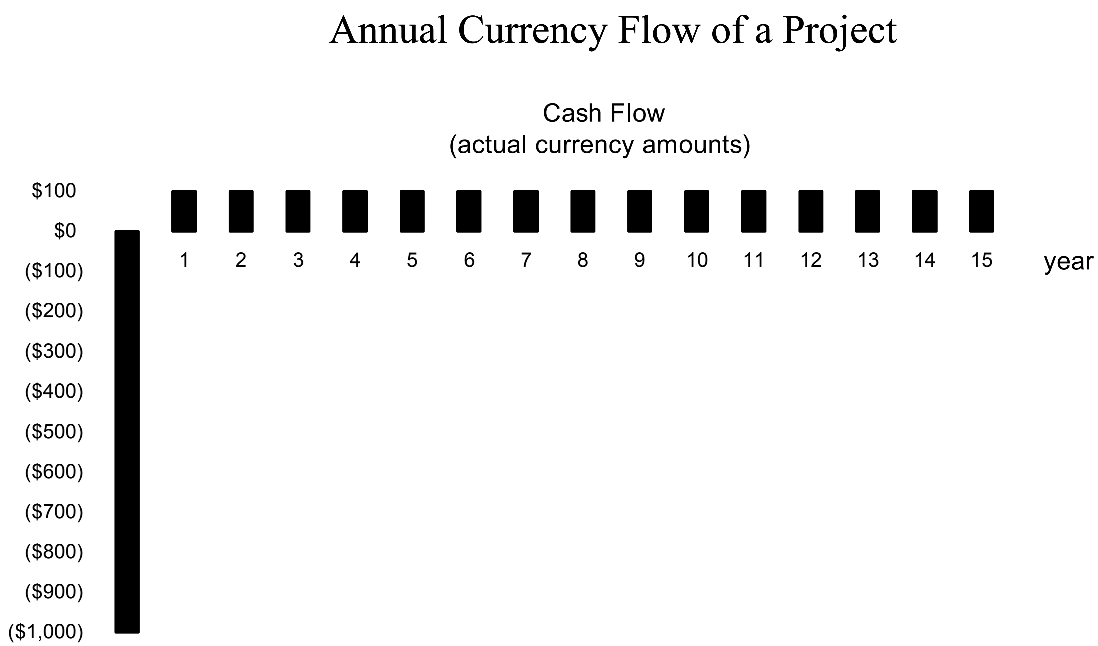

Figure 8.3: Actual Annual Currency Flow of a Project

To the financial analysts however, that same project will be looked at differently (Figure 8.4)

Problem: "Near-Seeing Glasses"

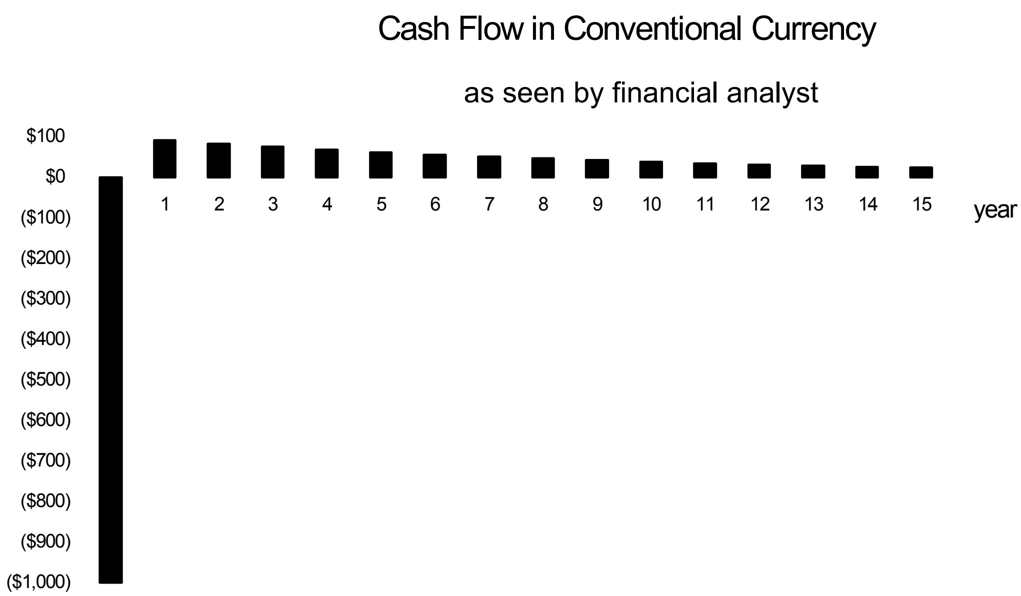

Figure 8.4 Discounted Cash Flow as Seen by Financial Analyst

He will still see the same - $1,000 in year 0.

But the income of $100 after the first year will only be worth $ 91 assuming the interest rate is a flat 10% per year for the entire length of the project. (All values are rounded to the nearest dollar for illustration purposes, since carrying lots of decimals would not modify the argument presented.)[128]

We all know that money in the future is worth less than money today. How much less depends critically on the "discount rate" applied to the project.

Our analyst knows he could deposit $91 in a bank today at a 10% risk-free rate of return, and automatically get $100 a year from now. Therefore the $100 a year from now is identical to $91 today. By the same line of reasoning, the second year's $100 would only be worth $83, the third's $75, etc. By the tenth year, the $100 inflow only represents to him $39; and in the fifteenth year a paltry $24.

[128] The exact mathematical factor for discounting a cash flow with a discount rate d on year N is 1/(1+ d) at the N th power. Most textbooks on Finance have an appendix with the pre-calculated tables for these factors.

So what looked like a perfectly reasonable investment, getting back $1,500 on a $1,000 investment of Figure 8.3, turns out as a lackluster project when looked at through the Near-Seeing Glasses of our financial analyst.

If we projected this on for a century, the last $100 would really be worth only 7 cents. Two centuries out we are looking at a few hundreds of a cent. No wonder that in our societies we do not usually think about the effect on our decisions "for the seventh generation", a process which would require us to take into account two centuries in the future...

There is nothing wrong with the financial analysts' eye sight or his reasoning. He just applies straightforward financial logic on a currency which has a positive interest rate.

Short-term Vision versus Sustainability

As this same reasoning applies to all financially motivated investments, it collectively creates the well-known pressure by the financial system for short-term returns at the expense of any longer term consideration -- including long term sustainability.

When a corporate executive complains that financial pressures force him to focus only on the next quarter's results, he is the victim of the Near-Seeing Glasses. When the Chinese say they cannot afford cleaner energy production technologies, they are really saying the costs of the long term future economic consequences *discounted to today* are negligible compared to the immediate cost savings made possible with the 'dirty' technologies they are planning to use. When a homeowner decides it is too expensive to install solar panels for heating his household water, she is implicitly saying that the cost of purchasing electricity or gas from the grid in the long run *discounted to today* is cheaper than the initial capital outlay required. When we build a house cheaply without appropriate insulation, we are really making the trade-off between the higher heating costs in the future *discounted to today* and the higher construction costs.

Relationship with Interest Rates

In the above explanation of the Discounted Cash Flow technique, we have made an assumption that the discount rate used is identical to the interest rate of the currency. In reality, the discount rate which should be used is the "cost of capital of the project." Without getting into undue technicalities, there are not one but three components to that cost of capital:

- the interest rate of the currency involved;
- the cost of equity;
- and an adjustment reflecting the uncertainty about the cash flow of the project itself.

The third component is completely project-related and therefore unaffected by the currency used. It would remain identical whatever the monetary system, and for the purposes of our discussion here will be ignored.

The first two, in contrast, are directly affected by the monetary system of the currency involved.

Here is the root-cause for the proverbial ‘short-sightedness’ of the financial markets, which forces corporations into making decisions which they know may hurt society and even business itself in the long run.

If a CEO of a corporation were tempted to think in longer-term social or ecological ways, he would soon be removed either by his board, or - if needed - by a new board after raiders have taken over. “A special breed of investors, the corporate raiders, specializes in preying on established corporations. The basic process is simple, though the details are complex and the power struggles often nasty. The raider identifies a company traded on a public stock exchange that has a ‘breakup’ value in excess of the current market price of the shares. Sometimes they are troubled companies. More often, they are well-managed, fiscally sound companies that are being good citizens and looking to the future. They may have substantial cash reserves to cushion an economic downturn and may have natural resources they are managing on a sustainable yield basis.“[129] After the takeover, they change the policies to suit short-term gains, ironically often to service the interest on the enormous loans used to make the take-over in the first place. The net result: one more company has put on near-seeing glasses...

In summary, under the existing money system, longer-term thinking is not only less profitable, it is actually severely punished.

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[129] Korten, David: When Corporations Rule the World (San Francico: Berret-Koehler Press, 1995) pg. 208

However, it is possible to design a monetary system which would dramatically lower the cost of capital through simultaneously reducing *both* interest rates and the cost of equity. And you will see how this process realigns financial interests with the long-term sustainability objectives.

Far-Seeing Glasses?

What happens when you reverse the way you look into binoculars? Suddenly, instead of bringing far objects closer, it makes everything look far away.

In our metaphor of the Near-Seeing Glasses positive interest rates were the feature of our current monetary system which created a generalized financial myopia, and made the future appear less relevant. And the higher the interest rates, the stronger the myopia. In other words, the result of positive interest rates is similar to what happens when one looks in binoculars the wrong way.

What would happen if we reversed the financial analyst's glasses?

Remember the demurrage charges mentioned at the end of the previous chapter? Demurrage was the brainchild of Silvio Gesell (1862-1930), and were most recently used as an anti-hoarding device for the stamp scrip currencies of the 1930s. Gesell's starting premise was that money is a kind of public service, like a bus ride. And that a small fee is charged for the time one hoards it. The word "demurrage" dates from the railroad days, and is the penalty that a client pays for leaving a railroad car unused, waiting to be loaded on his premises. The same applies today to container rentals.

From a financial perspective, a demurrage charge on money is mathematically equivalent to a *negative* interest rate. For reasons that will become clear soon, I will call this time related charge a "*sustainability fee"*. Now, what would such a sustainability fee or demurrage charge do to the eyesight of our financial analyst?

The same project described in Figure 8.3 would suddenly appear to him as described in Figure 8.5

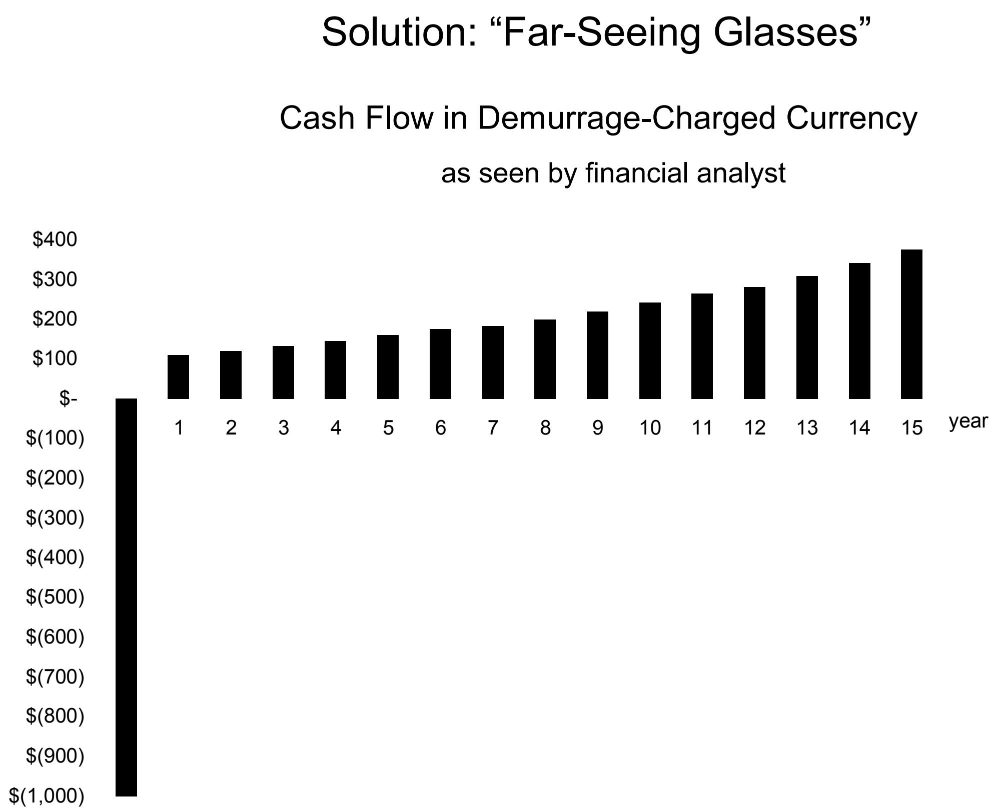

Figure 8.5: Financial Analyst's View of Figure 8.3 with a Cash Flow expressed in a Currency with a Sustainability Fee (or Demurrage Charge)

This is not just true because of a mechanical application of the equations of Discounted Cash Flow. Even if it looks strange at first sight, even if it contradicts what we are used to with our normal currencies, it still makes perfect financial sense.

Let us assume that I give you a choice between 100 units of an inflation-proof currency charged by a sustainability fee, today or a year from now. If you do not need the money for immediate consumption, and you have guarantees about my creditworthiness over the next year, you should logically prefer the money a year from now. The reason is that by receiving the money only in a year's time, you will not have to pay the sustainability fee for that year. In technical terms,

discounted to today's value, the 100 units will be *more* valuable a year from now than if you received them now. They will be worth exactly 100 *plus the sustainability fees.*
When sustainability-fee-charged currencies are used, the future is becoming more valuable with time, exactly the opposite of what happens with our normal positive-interest-rate currencies.

There remain two fundamental issues to be addressed :

- How could such an idea be implemented? Who could take the initiative for such a new global currency system in the foreseeable future?
- Is such an unorthodox money system sound? What would be its economic consequences?

A Global Reference Currency (GRC) and the Terra Unit

I will call a *Global Reference Currency* (GRC for short) the generic concept of a currency which is not tied to any particular nation state, and whose main purpose is to provide a stable and reliable reference currency for international contracts and trade.

Furthermore, I will propose as unit of account for one particular type of GRC the *Terra,* which aims at firmly anchoring that currency to the material/physical world. Remember, one of the reasons that the global currency casino can churn as wildly as it does is the disconnection between the financial world and physical reality, a link which was severed by President Nixon in 1971. In this role, the Terra would be akin to the gold standard in the 19th century.

The Terra is defined as a *standard basket* of commodities and services particularly important for international trade, and their relative weight in the standard basket would ideally reflect their relative importance in global trade.

For instance, the value of the Terra could be defined as

1 Terra = 1/10 barrel of oil (for example Brent quality and delivery)

+ 1 bushel of wheat (Chicago Mercantile Exchange delivery)

+ 2 pounds of copper (London Metal Exchange delivery)

+...etc.

+ 1/100 ounce of gold (New York delivery)

(Note: the specific commodities, their quality, delivery standards, and their respective weight in the *Terra* unit are proposed here as simple examples. In practice, this would be part of a negotiated agreement among participants.This standard could also include services, or indeces aiming at increasing further its stability.)

The Terra has four key characteristics:

- This currency can be made *inflation-proof* by definition. Inflation is always defined as the change in value of a basket of goods and services, therefore to the extent that the basket composing the Terra can be made representative of global trade automatic inflation-proofing is obtained.
- The value of this new Terra currency could easily *be translated* into any existing national currency. Anybody who wants to value the Terra in his or her own national currency just has to look up the prices of those internationally traded commodities which are part of the basket. These prices are already published in the financial sections of all the major newspapers in the world, and are available in real-time on the Net everywhere.
- More importantly, this currency is also *automatically convertible* in any existing national currency without the need for any new international treaty or agreement. Anybody who is paid in this currency would have the option to just receive the basket of commodities delivered in pre-arranged facilities (such as the already existing delivery places for the different futures markets, for example.) These existing commodity markets could also be the place to obtain cash in the conventional national currencies for the products delivered, if this is desired. We should expect that - as the system proves reliable and credible - fewer and fewer people would feel the need to go through this process of cashing in the receipts.
- But the most important reason for our purposes here, is that the *sustainability fee is 'naturally' embedded in the money system.* It therefore guarantees the full integration of the proposed currency in the existing market system of the "real" economy in all its aspects.

There are indeed real costs associated with storing commodities, and the sustainability fee would simply be the cost of storing the basket of commodities agreed upon. These storage costs (and therefore the sustainability fees) have been estimated in a detailed study for a Commodity Reserve Currency at 3 to 3.5% per annum.[130]

Note that these costs are *not* new additional costs to the economy as a whole. These same costs are indeed already factored in the current economy. What is proposed is simply *transfering these existing costs to the bearer of the Terra, thereby giving them the useful social function of a sustainability fee*.

130 Estimate of the cost of a 27 global commodity reference currency by Albert Hart of Columbia University, Nicholas Kaldor of King's College in Cambridge, UK and Jan Tinbergen of the Netherlands School of Economics: The Case for an International Reserve Currency (Geneva: presented on 2/17/1964 (Document UNCTAD 64-03482).

Economic Tech Talk

Economic textbooks define money in terms of its functions, the three most important of which are: Standard of Value, Medium of Exchange and Store of Value (definitions in Appendix A).

Since 1972, there is no international standard of value. In this sense, a GRC simply restores that function for those who choose to use it as a contractual currency.

The role of medium of exchange would be played by either the GRC or conventional national currencies at the choice of the parties—just as today's decision of which national currency is to be used for an international payment..

Finally, the store of value function would *not* be played by the GRC. It could be played by instruments in conventional national currencies, or by new specialized financial products which would create liquidity from investments in productive assets.

This functional specialization shows how the GRC plays a role *complementary* to the conventional national currencies.

***

The behavior dynamic that the GRC induces is similar to the "good" aspects of inflation while avoiding its "bad" ones. Economists have noted that a moderate amount of inflation can actually have a good impact on the economy. For instance, the 1980s inflation in the US provoked a negative net return on fixed income instruments, thereby encouraging investments in productive projects. However, inflation also implies regressive effects such as the erosion of all price agreements and the redistribution of wealth from the financially unsophisticated majority to a sophisticated minority.

The demurrage fees of the GRC therefore obtain the positive effects of inflation, while avoiding its negative ones.

***

Fisher's classical velocity of money equation provides another way to illustrate the impact of the GRC.

$$T = \text{Sum}(PG) = QV$$

(where T = total economic exchanges; P = Prices; G = Goods and services exchanged; Q= quantity of money and V = velocity of money circulation).

For a given quantity of money in circulation (a given Q), the demurrage feature of the GRC increases V. To the extent that the Terra unit is expressed in terms of a representative basket of commodities and services, it keeps P constant by definition. Fisher's equation therefore shows that the total with the introduction of a GRC goods and services exchanged would necessarily increase, thereby improving overall economic well-being.

***

Finally, the use of a GRC in complement with conventional national currencies would automatically tend to counteract the prevalent business cycle, thereby improving the overall stability and predictability of the world's economic system. This is so because corporations have by definition an excess of raw materials when the business cycle is weakening. They would therefore tend at this point of the business cycle to sell more raw materials for storage to GRC Inc., which would pay for them with Terra. The Terra would be used immediately by these corporations to pay their suppliers, so as to avoid the demurrage charges. These suppliers in turn would have a similar incentive to pass on the Terra as medium of payment. The spread of this increased incentive to trade with this currency would therefore automatically activate the economy at this point in the cycle.

On the contrary, when the business cycle is in a boom period, corporations have a systematic incentive not only not to sell new inventories to the Countertrade Alliance, but even to cash them in to have access to the raw materials themselves. This would reduce the amounts of Terra in circulation when the business cycle is at its maximum thereby cooling off the economy at this point. At the peak of the cycle, it is even possible that no Terra remain in circulation at all (which does not preclude their continued use as contractual reference currency).

Both Keynes and Friedman have shown that with conventional money, the velocity of money is *pro-cyclical* (each for different reasons: the former on the basis of changes in interest rates, the latter on the basis of the predominant role of Friedman's "Permanent Revenue" in determining the demand for money). The fact that the quantity of Terra in circulation would be countercyclical with the business cycle would therefore tend to counteract the pro-cyclical nature of the conventional money system.

In summary, the introduction of a GRC would tend to automatically dampen the business cycle by providing additional monetary liquidity in counter-cycle with the business cycle relating to the conventional national currencies.

Theoretical and Practical Soundness

The sidebar on "Economic Tech Talk" synthesizes the idea for those who prefer a purely economic language.

Conceptually, the Terra is the combination of two ideas a currency backed by a basket of raw materials which has been proposed by many top economists of every generation[131], including a.o. the contemporary Economic Nobel Price laureate Jan Tinbergen on the one side; . and sustainability fees as originally proposed by Silvio Gesell under the name of demurrage charges on the other. This second idea -- demurrage charge on currency, -- was formally endorsed by no less an authority than John Maynard Keynes. He claimed that demurrage not only makes sense from a theoretical viewpoint, but is actually preferably to our normal currencies. Chapter 27 of Keynes' main work, the *General Theory of Employment, Interest and Money* explicitly states that: "Those reformers, who look for a remedy by creating artificial carrying cost for money through the device of requiring legal-tender currency to be periodically stamped at a prescribed cost in order to retain its quality as money, have been on the right track, and the practical value of their proposal deserves consideration." 132

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[131]See for example: Harmon, Elmer Commodity Reserve Currency (New York: Columbia University Press, 1959); Graham, Benjamin World Commodities and World Currency (New York: McGraw Hill, 1944) and Storage and Stability (New York: McGraw Hill, 1937); Albert Hart of Columbia University, Nicholas Kaldor of King's College in Cambridge, UK and Jan Tinbergen of the Netherlands School of Economics: The Case for an International Reserve Currency (Geneva: presented on 2/17/1964 (Document UNCTAD 64-03482); St Clare Grondona Economic Stability is Attainable (London: Hutchison Benham Ltd, 1975); Ian Gondriaan How to Stop Deflation (London, 1932); W.S. Jevons Money and the Mechanism of Exchange (1875).

132 Keynes, John Maynard, *The General Theory of Employment, Interest and Money*, (London: MacMillan,(1936), p. 234.

Keynes concluded with the most amazing statement that "the future would learn more from Gesell than from Marx."[134]
Surprisingly, some officials of the Federal Reserve today seem to have their own reason to agree with him (sidebar).
The best recent contemporary analysis of Gesell's thesis is provided by Dietrich Suhr.[135] He proves that our normal positive interest rate currencies create systematic misallocation of resources, while zero interest rate or sustainability fee charged currencies do not. He also provides solid answers to some of the criticisms levied against sustainability fee charged currencies.

> ***A Federal Reserve Official Recommending Demurrage?***
> The US currency should include tracking devices that let the government tax private possession of dollar bills, recommends Marvin Goodfriend, a senior vice president and policy advisor at the Federal Reserve of Richmond.
> In a 34-page paper he argues that this demurrage charge will discourage "hoarding" currency, deter black market and criminal activities, and boost economic activity during deflationary periods when interest rates hover near zero.[133]
>
> The motivation and the proposed mechanism for this application is obviously different from the ones I propose here. I think that the likelihood that Mr. Goodfriend's idea will be acceptable to Congress is low, but this shows at least that the concept of demurrage is starting to attract an intriguing amount of attention.

These people were in favor of different parts of the GRC proposal for a variety of valid reasons - other than sustainability - such as monetary stability, lessening the volatility of business cycles, and reduction of international inequalities. A Global Reference Currency such as the Terra would also cumulate these advantages, in addition to the benefits of the sustainability fee idea with its long-term sustainability aim.

It is also important to understand that people would not need to handle the commodities themselves when making or receiving payments in Terra, exactly as someone owning a futures contract in copper does not have to handle copper itself. A Terra is simply a warehouse receipt giving the right to receive the *value* of the basket of commodities in whatever currency he or she deals in. The Terra would therefore be capable of being transferred electronically just as today's national currencies; it would simply be stable and inflation-proof, something which today's national currencies have proven not to be.

[133] details in http://www.rich.frb.org/monetarypol/marvin.htm and synthesis in http://www.wired.com/news/politics/0,1283,32121,00.html
134 Keynes (1936) Chapter 32, p. 355.
135 Suhr, Dieter, *Capitalism at Its Best: The Equalisation of Money's Marginal Costs and Benefits*; (Augsburg, Germany: Universität Augsburg, 1989).

Historical Precedents

Note that the idea of a commodity backed currency combined with a sustainability fee is not really new. An early form of it was applied in Pharaonic Egypt. It was the secret of the remarkable stability of the Egyptian monetary system, which has not been reproduced by any civilization ever since.[136] It created economic stability and abundance for over a thousand years This historical record also demonstrates the remarkable capacity of sustainability fees to foster *sustainable growth* which can last over several centuries. This topic will be discussed elsewhere.[137]

Implementation Options

There are several ways by which a Global Reference Currency could be implemented. For instance, one could theoretically attempt to obtain a consensus for a GRC reform among the governments of the world via a new Bretton Woods agreement or via a reform of the International Monetary Fund (IMF).

However, the political realities today are such that it is highly unlikely that such a new consensus could be reached by governments. Private conversations with top executives at the Bank of International Settlements (BIS) and the IMF have confirmed that a fundamentally new monetary initiative could only be taken by the private sector in today's geopolitical circumstances. Furthermore, real decision-making power today lies more with multinational corporations than with governments anyway. The most important time priorities that require shifting if sustainability is to be achieved are those of the global corporations, and therefore a buy-in from the corporate world would be necessary in any case. This is why the strategy proposed here is to convince a group of key corporations to set up the Global Reference Currency themselves as a service for anybody who wants to trade internationally.

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[136] The remarkable story of the Egyptian monetary system and its effects will be discussed at length in *The Mystery of Money*. The best source on the Egyptian monetary system is: Preisigke, Friedrich, Girowesen im Griechischen Ägypten enthaltend Korngiro, Geldgiro, Girobanknotariat mit Einschluß des Archivwesens, (Strassburg: Verlag von Schlesier & Schweikhardt, 1910); reprinted: by Hildesheim (New York: Georg Olms, 1971).

[137] See The Mystery of Money: Beyond Greed and Scaricty in which two historical precedents of the impact of demurrage currency on society and economic well-being are studied at length: Egypt and the Central Middle Ages (10th to 13th) century. A connection will be shown between demurrage-charged currencies and the unusual prosperity o the

GRC as a Business Initiative

The GRC makes sense as a business initiative for a number of reasons which will be presented next.

Barter Standardization

The simplest way to understand the GRC from a business viewpoint is to see it as *a standardisation of barter.* The growth in barter exchanges, both internationally and domestically, has been remarkable. Over the past two decades barter has grown to a large-scale mainstream activity, and has even become a core activity for many businesses involving media, travel, hotels, and international trade. A 1995 survey estimated the amount of barter globally to US$590 billion per year. The Asian and Russian crises of the late 1990s are bound to further increase barter exchanges. Some business sectors have already developed standard units of exchange specific to their business. For instance the International Air Transport Association (IATA) has been using for more than two decades its own global unit of account to settle payments among its member airline corporations. Similarly, "hotel-rooms" and "TV Spots" are gradually evolving as standard industry-specific barter units.

The next logical step is to develop standardized barter units designed to operate on the Net. In this sense, the Terra or any other GRC unit would simply be a cross-industry barter unit. However, this barter unit could also be designed to provide three additional benefits as follows:

- *A well-designed barter standard would be more robust than currently existing national currencies, and could become useful as an international standard of value for contractual and international payment purposes beyond barter.*
- *By having the basket backed by an actual stock of the commodities involved, this system would behave in a powerful counter-cyclical way with the business cycle.*
- *Finally, by transferring the storage costs of the basket to the bearer of the currency, this currency would re-align financial interests with longer-term concerns as shown above.*

The relevance for business for each of these three benefits is explained next.

International Standard of Value

The problem of a lack of international standard of value was first identified by Hogart and Pearce: "It will not be long before the world comes to recognize anew that it is no more possible to conduct

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Central Middle Ages, to the point where this period has sometimes been called "The First European Renaissance" ant the "Age of the Cathedrals".

affairs without a proper standard of value than it would be to conduct affairs without an agreed unit of length or weight."[138]

One consequence of the lack of an international standard has been the growing importance of currency risks. These risks are now typically larger than political risks (e.g. the possibility that a foreign government nationalized the investment), or even market risks (e.g. the possibility that clients do not want the product).

In a 1992 survey of U.S. Fortune 500 corporations, all participants in the survey reported that foreign exchange risks is now one of their main concerns.(139). Furthermore, 85% reported that they needed to use expensive derivative strategies to attempt to reduce this foreign exchange risk. It is significant that the firms engaging most in such hedging were also the largest and most sophisticated.(140)

One important aspect about which no surveys have been made is that many foreign investments end up not being made at all, simply because the currency risk cannot be covered, or its coverage is too expensive. These opportunity costs are detrimental not only to the corporation involved but to society at large as well.

All this was already the case before the recent spate of monetary crises. The monetary emergencies in Asia (1997), Russia (1998) and Brazil (1999) have brought the whole issue to a new level of gravity. The following quotes provide a feeling of the seriousness of currency instability risks today as seen by monetary authorities:

- *"We are in a situation which is indeed dangerous"* (Sept 6, 98) Michel Camdessus, three times Director General of IMF
- *"This is an unprecedented situation"* Rubin, US Secretary of Treasury (Sept 98)

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138 Hogart, W.P. and I.F. Pearce I.F., *The Incredible Eurodollar* London: George Allen and Unwin, 1982), pp. 130-131.

139 Dolde, Walter "The Use of Foreign Exchange and Interest Rate Risk Management in Large Firms" University of Connecticut School of Business Administration Working Paper 93--042 (Storra, Conn. 1993) pg 18-19. Specifically, there was also consensus that interest rate risks were an order of magnitude less important than foreign exchange risks.

140 Dolde, Walter "The Use of Foreign Exchange and Interest Rate Risk Management in Large Firms" University of Connecticut School of Business Administration Working Paper 93--042 (Storra, Conn. 1993). The 85% of the firms that routinely have to hedge have a capital averaging at $8 billion, compared to $2.5 billion for the 15% which never hedged (see exhibit 1 pg 23-24)

• *"This is the most serious financial crisis since World War II"* Bill McDonough, President NY Federal Reserve at the IMF Meeting (October 98), statement which President Clinton repeated verbatim a few weeks later.

A GRC such as the Terra would therefore reduce operational costs under normal monetary circumstances, and in addition constitute a very robust back-up system in case of further major monetary instabilities.

An Antidote to the Risk of Depression

For the first time in over 60 years, the possibility of a global recession beyond the control of monetary authorities cannot be dismissed. As Paul Krugman put it "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." [141]

The GRC system could be managed in a way to have a powerful counter-cyclical economic effect with the official money system, thereby contributing to the reduction of risks of a major global recession. This is so because the inventories backing the *Terra* would logically be growing during a recession, as corporations always have larger amounts of available inventories at such times.. This would automatically ncrease monetary liquidity in *Terra* at this point of the business cycle. During a boom period, the reverse would happen: inventories and *Terra* generated monetary liquidity would both drop. *The GRC system would therfore tend to automatically counterbalance the conventaional business cycle.* Introducing this system would specifically be helpful to avoid the longer-term recession or even depression that many fear.

Business and the Environment: A Business Viewpoint

A Global Business Network special report on Sustainability concluded that "Industry and environment can no longer be compartmentalized. The global environment system and the socioeconomic system are now coupled – the fate of one is tied to the fate of the other. If

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[141] Krugman, Paul "The Return o Depression Economics" Foreign Affairs (January - February 1999) pg. 42-74.

conventional industrialization keeps growing, it risks bringing down the ecosystem; if the ecosystem crashes, it will bring down the economy.

The industrial system is highly vulnerable if there is a serious ecological breakdown. Multinational companies are tuned like Grand Prix racing cars for better and better lap times. They assume the racetrack will be perfectly smooth, without obstructions. Industrial installations, buildings, plant, energy transmission lines, are all designed for a narrow set of climatic and ecosystem assumptions – conservative maximum wind loading, moderate earthquake resistance, a steady flow of resources. But we now know, from studies of such things as Arctic ice cores, that nature is certainly capable of far more severe disturbances that the recent, relatively narrow range of climatic variation has led us to assume. This puts the operational basis of today's industrial society directly at risk from possible global ecological breakdowns and accompanying widespread natural disaster."[142]

As we saw earlier (Chapter 1), the insurance industry has been the first major sector to have its bottom line directly hit by this connection. But while it is the first, it is clearly not the only sector concerned.

Conclusions

It may sound strange at first sight to have businesses perform this function of creating a currency as a public good. However, it is useful to remember that the so-called "national" currencies are in reality also a form of corporate currencies, issued by private banks as explained in the Primer and Chapter 2. Note also that the banking and financial services industry are not excluded from the GRC process: the more creative financial institutions would be providing *Terra* denominated services , exactly as they do today for any foreign exchange account.

There actually exists a historical precedent for an international initiative taken by buiness people: the Hanseatic League (1367-1500). (see sidebar)

[142] Tibbs, Hardin "Sustainability" Deeper News (Global Business Network: January 1999) pg 29.

However, the contemporary version of such a function would also be significantly different from the historical *Hansa.* It should be global rather than regional, it should be an open public service system rather than a cartel, and it should be using contemporary legal and financial concepts and communication technologies (i.e. Internet) to implement it.

Historical Precedent for Business Creating Multinational Framework
(1367-1500)
At a time of strong fragmentation in Northern Europe, merchants in different independent cities (Bremen, Koln, Hamburg, Bruges, the Baltics, etc.) got together to create their own legal trading framework (the *Hansa),* complete with its own standard currencies and even its own international courts of justice to settle disputes. All of this completely outside of the official political/governmental system. That system lasted for well over a century, six times longer than the current floating exchange experiment.
The *Hansa w*as defined as an official institutional structure in 1367, after more informal experiments covering over a century. This system was remarkably successful in attaining its objectives. However, the merchants in each harbor would spend as much energy impeding access to the system for other merchants competing with them in their own market, as working at expanding their markets overseas. It also purposely excluded traders from specific countries. It finally fell apart at the end of the Fifteenth Century when Dutch and English traders, shippers and fishing fleets - originally excluded from the system - successfully challenged this monopoly.

If the road of a private initiative is taken to implement a GRC of some kind, it would therefore be important to set up from the beginning guarantees for a truly open market access for all participants in international trade, independently of size or origin, to avoid having to repeat that part of the *Hansa* history.

What it really boils down to is the question of whether business leaders are willing or capable to take responsibility to reform the current monetary system by a private initiative that would help make business truly sustainable. The word “business” in Swedish is *“Näring Liv”* (literally “*Nourishment of Life*”). A Terra initiative by an alliance among businesses would be one way whereby it also could be made more true. It would also be a deeply effective way for business leaders to escape the perpetual *conflict between stockholders' priorities and their own personal concerns for long-term sustainability,* whether these concerns arise from public pressure, personal ethics, or their own grand-children's future.

“The world is not given to us by our parents.
It is loaned to us by our children”
(Panel at the Biodiversity Hall of the NY Museum of Natural History)

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Some people may be surprised at the proposal made in this chapter, proposal that seems all in favor of multinational corporations. Particularly after I made clear in the “Corporate Millennium” (chapter 4) that there are some risks in the creation of a new de facto monopoly of private corporate

currencies. However, my proposal is not to create such a monopoly. Instead a global corporate currency is recommended *at the same time* as the introduction of local complementary currencies with social aims (chapters 5 to 7). Furthermore, I am convinced that we will not create a world of Sustainable Abundance without the involvement of the corporations, organizations which have become today the most important shapers of our future, whether we like this or not.
The issue here is one of *balance,* and such a balance will not be achieved by excluding the most active components of our society. How all the pieces of the puzzle, including the Global Reference Currency, fit together to create such a balance aiming at generating Sustainable Abundance, is the topic of the next and last chapter.

Chapter 9: A Broader View - the Tao of Money

"We don't have a mechanistic universe,

We have a learning universe."

Edgar Mitchell[143]

"Only by restoring the broken connections can we be healed.

Connection is healing"

Wendel Barry[144]

So far, we have remained within a fundamental premise implicitly built into economic thinking: that the economy is a closed system where monetary exchanges determine what is going on. In this chapter, we will start having a peek "outside of the box."

My basic premise is that no single metaphor can provide us with a full picture for the possibilities offered by revisiting our unconscious assumptions about money. Multiplying the perspectives through different metaphors should therefore help to dispel the illusion that any one of them describes the real world.

[143] Edgar Mitchell was an early American Asronaut, currently US Senator.
[144] Berry, Wendel The Unsettling of America (San Francisco: Sierra Book Club, 1977)

Nine Metaphors

Each metaphor gives only an insight from one particular angle. It is a bit as if someone tried to make an inventory of the Louvre Museum by looking through key holes. The more keyholes we can look through, the better the chance to grasp the real picture, although we should never have the illusion that we *really* have figured it all out. The view from the keyhole of traditional economics will be complemented by eight additional metaphors which each provide an interesting insight, and together allow us to better map the terrain. Through this diversity of viewpoints, I also hope to dispel the notion that any one of them fully describes reality as it is.

Here are nine metaphors:

1. Traditional Economics Viewpoint
2. Alternative Economics Viewpoint
3. Biological Metaphor
4. The Brain Metaphor
5. Mythological Viewpoint
6. A Western Philosophical Viewpoint
7. A Humanistic Viewpoint
8. A Taoist Viewpoint
9. A Whole Systems Viewpoint

If you are in a hurry, you can select only the "keyholes" that communicate best to you. However, in any case read the last three -- the Humanistic, the Taoist and the Whole Systems viewpoints -- because they introduce concepts that will be used later on.

1. Traditional Economics Viewpoint

"Any position tends to be right on what it affirms,
and wrong in what it denies."
Stewart Mills, classical economist

The most famous metaphor of traditional economics is now 230 years old, and it still resonates today.

"Every individual ...endeavors as much as he can...to direct...industry so that its produce may of the greatest value...neither intending to promote the public interest, nor knowing how much he is promoting it...He intends only his own gain, and he is in this, as in many other cases, led by an

invisible hand to promote an end that was no part of his intention... By pursuing his own interest he frequently promotes that of society more effectually than when he really intends to promote it."[145]
This invisible hand metaphor comes straight from the way Newton's laws of gravity were explained at the time. God's hand was pushing every particle of matter to be attracted to all the others. Every raindrop would seek to reach its own lowest possible level directed by the invisible hand of gravity.. However, almost every chapter of this book has illustrated that *it is our money system - not God or human nature - which is really what has been programming that Invisible Hand*.
Notice also that the key guiding metaphors embedded in mainstream economics (for instance, general equilibrium or price formation theories), are invariably Newtonian-style mechanic and/or mathematical ones. These have unquestionably proven powerfully effective metaphors, but sometimes we should remember that they are only a map, not the territory. The current chapter will show that the economic territory is wider and more diverse than what traditional economics acknowledges.
The whole systems approach presented later will define "Integral Economics" which *includes* what traditional economics deals with, but also includes the other dimensions of human activity and exchanges it has tended to deny. I call it "Integral" because it attempts at recovering a broader perception of reality than traditional economic models have dealt with so far.

2. Alternative Economics Viewpoint

There has been a whole flourish of literature of "alternative economics" of varying quality.[146] Among the most didactically fun ones are Hazel Henderson's singular metaphors for the economic system.[147]

The traditional way of defining the economic pie (see Figure 9.1)[148], acknowledges three sectors: the **Private Sector** (the largest piece of the pie), the **Public Sector** and an **Underground Sector** (about

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[145] Smith, Adam The Wealth of Nations pg 423
[146] Among the many excellent and most recent ones, see Ekins and Max-Neef, Manfred Real Life Economics (New York: Routledge Press, 1992); Ekins, Paul: Green Economics Atlas; Hawken, Paul The Ecology of Commerce ( ); Kelly, Kevin (editor of "Wired") Out of control: The new biology of Machines, Social Systems, and the Economic World ( ); Rothschild, Michael Bionomics: Economy as Ecosystem (New York: Henry Hold and Co, 1990; Daly, Herman E. And Cobb, John B. For the Common Good: Redirecting the Economy toward Community, the Environment and a Sustainable Future (London: Green Print, 1990)
[147] Henderson, Hazel Paradigms in Progress: Life beyond Economics (Indianapolis, IN, Knowledge Systems, Inc. 1992)
[148] Ibid. pg. 28

15% of the total, representing the 'black market' such as drug dealing and other illegal economic activities).

Figure 9.1 The Traditional GNP Economic 'Pie'

In contrast with this flat 'pie' Henderson proposes another image: 'a three layered cake with icing'(see Figure 9.2)

Figure 9.2 Total Productive System of an Industrial Society[149]

This image shows that the GNP-Monetized top half of the cake is basically the only part ever looked at and represented in the traditional GNP pie. However, this official market economy of all the cash transactions rests on top of the Non-Monetized productive half of the cake. This is where the do-it-yourself, the bartering, the internal family gift economy, the unpaid community support systems and the subsistence agriculture reside. The whole human economy finally rests upon the ultimate gifts of Mother Nature: the natural resource base, the place where all 'external' costs of the entire economy are buried (absorption of pollution or toxic dumps, recycling of waste if absorption tolerances are not exceeded).
Seen from this perspective, the private sector market economy is only the "icing on the cake." It can only function with the support of the services provided by the Public Sector (e.g. transport,

education, laws, law enforcement). However both the Public and Private Sector together would not even be possible without the free gifts of the social cooperative economy. Bringing up a child, and training her or him to fit in society for a public or private career, is part of what Henderson calls the "Love Economy" which provides a permanent and hidden subsidy to the official economy. The biggest component of that "Love economy" is of course the role that the natural world plays in terms of subsidizing the official economy, which doesn't even bother to acknowledge its existence.
Another topic Henderson talks about is the "generally sacrosanct goal of 'full-employment'. What economists and policy-makers actually mean by this term is the full employment of 'heads of households' (i.e. only half of the adult population, generally the male)" . The work done by women or children was considered not existing, whether at home or as volunteers in the community. "All this represented a colossal subsidy to the GNP measured sectors. This hidden subsidy eroded as women moved into the paid work force due to wartime mobilization and the lure of cash... Few dared to question whether the industrial economy could actually employ and pay *all* of its able-bodied adults, or whether this might 'break the bank' or simply inflate the currency, denude the rural areas, and erode family and community life while leaving children and the elderly or sick unattended." [150]
Suddenly, the boring technical definitions of GNP or employment reveal a host of hidden political and social agendas - some of which may very well have been considered as self-evident when these concepts were defined half a century ago.
In recent years even the World Bank has started to catch up with these facts, and now confirms that what is measured in the traditional GNP is a partial and misleading reality which misses the vast inputs from non-Monetized and natural inputs.

3. Biological Metaphor

Mathematics and physics have been the "model sciences", the ideal metaphor to which all scientific progress has been striving for the past two centuries. But this has now started to change. "The primacy of mathematical physics as the science of sciences, as the exemplary core of general scientific progress, which it has been since the seventeenth century, is now passing. The new hub is that of the life sciences, of the lines of inquiry that lead outward from biology, molecular chemistry,

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[149] Ibid. pg. 30

biochemistry, biogenetics...These lines now seem to radiate and spiral toward every quarter of scientific and philosophical pursuits, as did the physics of Descartes and Newton."[151]

The metaphors for economics provided by evolution biologist Elisabet Sahtouris are therefore particularly relevant. "As an evolutionary biologist, I see globalisation as natural, inevitable, and even desirable. It is already well under way and is not a reversible process. We are doing some aspects of it cooperatively and well, to wit our global telephone, postal and air travel systems, but not the most central and important aspect of globalisation - its economics - which is currently being done in a manner that threatens the existence of our whole civilization. [...] The evolutionary process never goes well until the individual, communal, ecosystemic, and planetary interests are met simultaneously and reasonably harmoniously. This is an aspect of biological evolution that unfortunately has not gained prominence, and is therefore not part of our meme (social gene) bank. However spiritual we can also be, we humans are inescapably biological creatures and could benefit greatly from the lessons already learned in the four-and-a-half billion-year improvisational dance we call evolution.

What is it that prevents your cells, or your organs, from pursuing their self-interest competitively such that relatively few "win" and most "lose." The obvious answer is that they are part of a cooperative - a multi-celled *creature,* a whole entity that began as a single cell, but is more than the sum of all the cells cloned from it. If we were an intelligent species - and I suspect aliens would have to judge us otherwise given our knowing destruction of our own life support system and our ridiculously juvenile antagonisms over what belongs to whom - it would become obvious that human affairs have reached the danger level. Cooperation must restore the imbalances of aggressive competition and hoarding if we are not to go extinct along with the tens of thousands of other species we are knocking out of the game each year."[152]

She adds that *both* communism and capitalism have in common not to pass the test of biological system robustness. The communist model fails when it assumes that all cells or organs are subordinate to the whole, and or not supposed to take any initiatives on their own. The body understands the role of differences and initiative.

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[150] ibidem pg. 31
[151] Steiner, George "Life Lines" The New Yorker March 6, 1971, pg 101.
[152] Sahtouris, Elisabet "the Biology of Globalisation" World Business Academy Perspectives (Volume 11 number 3, September 1997) pg 27-38.

For the capitalist side, her argument runs as follows. "Consider world economics and imagine it as the economics of a living entity as your body. Think what would happen in your body if the raw material blood cells in your bones were mined as resources by the 'northern industrial" lung and heart organs, transported to their production and distribution centers where blood is purified and oxygen added to make it a useful product. Imagine it is then announced that blood will be distributed from the heart center to those organs that can afford it. What is not bought is chucked out as surplus or stored till the market demand rises. How long could your body survive that system? [...] Obviously metaphors have their limits and I do not for a moment suggest we slavishly emulate body models. But bodies beat unrealistic mechanical metaphors of perfect societies running like well-oiled machines. They are something we all have in common regardless of our world-views or our political or spiritual persuasions, and they *do* exemplify the main features and principles of all healthy living systems, be they single cells, bodies, families, communities, ecosystems, nations or the whole world."[153]

4. The Brain Metaphor

The following image provides another biological metaphor, the one presented by neuro-specialist Roger Sperry for the human brain. His claim is that the two halves of the brain tend to specialize in their functions (Figure 9.3).

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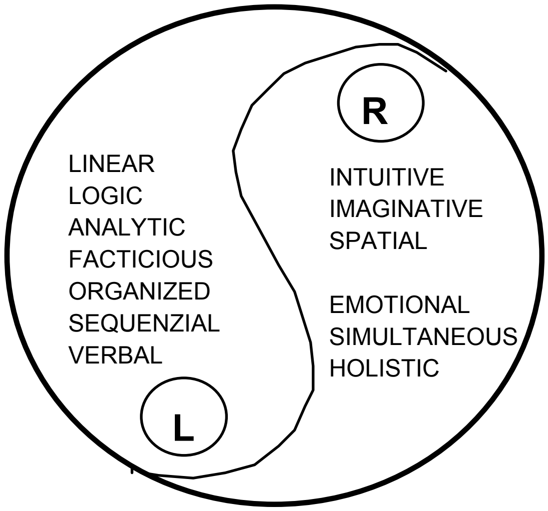
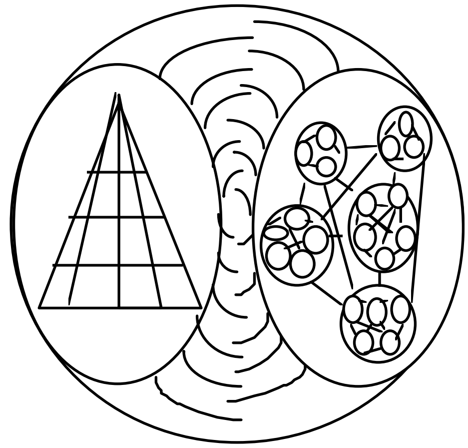
[153] Ibidem pg 36 *italics* in original.



Human brain: typical functions of the right and left side



h o l i s t i c o r g a n i z a t i o n
differentiation in the linear and circular structure and functions

Figure 9.3: The two halves of the human brain and their functions[154]

In this interpretation, the left brain is operating predominantly in a linear, logical, hierarchical and sequential way. This process is represented as a hierarchical cone in the illustration to the right. In contrast, the right brain operates mostly in an intuitive, imaginal, integrative and holistical way, which is represented by a network of nodes.

Although this view of a specialization of the two halves of the brain should not be driven to extremes, it provides nevertheless an interesting insight into a possible brain "hard-wiring" of different modes of interpretation of the world.

In this view, the prevailing economical systems have been interpreted until now exclusively as relevant for left-brain approaches.

[154] Illustration from a conference by Ebeling, Ingrid on "Self- organizing structures" (Caracas 1990)

5. Mythological Metaphor

Greek mythology has a marvelous tale illustrating the consequences of the single-minded pursuit of one aspect of reality. It is the story of the "deadly Midas touch."

King Midas of Lydia had made the wish that everything he touched would change to gold. The God Dionysus accorded him his wish. At first, this looked like a great idea: he was quickly transforming stones and furniture in his palace into an incredible treasure trove. But then his daughter came by, and as he tried to embrace her to share his excitement, she transformed into a golden statue as well. When he tried to eat, everything he tried to swallow turned to gold. So "the richest man in the world" ended up dying alone, and starving.

"Any organism that destroys what it takes to be its other,
not recognizing itself in that other,
lies a firm foundation for its self-destruction"

was the viewpoint of cybernetics specialist Edward E. Sampson[155]

6. A Western Philosophy Viewpoint

"*Male and Female He created them.*
From here we learn:
Any image that does not embrace male and female
is not a high and true image."
The Zohar[156]

Richard Tarnas is credited by several authorities to have written "the best intellectual history of Western thought" covering from 700 BC to today. He sees two levels where a new integration has to happen, one is the level of the "meta-narratives" (the "story behind all the stories"), and the other one at the balance in society between masculine and feminine viewpoints

155 Sampson, Edward E. "The inversion of Mastery" Cybernetic Volume 2 (1986) pgs 26-39
156 The book of Enlightenment, translated and introduced by Matt, Daniel Chanan (New York: Paulist Press, 1983) pg. 55 The Zohar is a thirteenth -century spiritual classic and the major text of the Kaballah, the Jewish mystical tradition.

Today's Meta-narratives

According to Richard Tarnas[157], there are two core myths that constitute the meta-narrative in the Modern Western world. "Meta-narratives" refer to the "big story" that underlies all the other stories we tell about ourselves and the world.

The first meta-narrative sees human evolution as a *Heroic* conquest toward "*Progress*." It sees history as moving from a "primitive" stage marked by "ignorance, limitations and scarcity," to a "Modern" future marked by "vastly increased knowledge, freedom and well-being." In today's version of this Promethean project, everything is possible through science, technology, and individualistic democracy.

The second story is the underbelly of the first, a description of the same identical process as above, but seen from the perspective of the losing parties. It is a meta-narrative that started about 150 years ago - the idea of "*Decline*" - born as soon as "Progress" became a buzz-word[158]. It comes from the metaphor of the "Fall," which originated when we split off from a "sacred" reality and its values traditionally held as sacred. The current version of this Decline narrative includes the loss of meaning, of soul, and of an imminent ecological collapse.

Both the Heroic narrative and the Decline create each other, they are the two sides of the same reality. They *are* the same reality looked at from two valid viewpoints. The two visions complement each other. Tarnas claims that "The opposite of a great Truth is another great Truth" Our task is to hold both opposites, which creates the richest vessel for possibilities and insights, "the vessel where the divine manifests."

There are many different world-views that can be constructed from the available data. One of them is that we are on a race against time between a collective initiation and a species self-destruction. The Time Compacting Machine was one example of such a view (chapter 1). The other narrative is that we are already engaged in the birth canal of another civilization, that *our crisis is a birth*.

Masculine and Feminine

After 400 pages of inventory of the ideas of almost exclusively "males writing for other males," Tarnas concludes that an unprecedented shift is happening *now* between what he calls the "masculine" and the "feminine." [NB: "masculine" in the following quotes is not identical with male

[157] Synthesis of a conferency by Richard Tarnas on June 12, 1998, Sausalito CA.

[158] Herman, Arthur The Idea of Decline in Western History (New York: The Free Press, 1997).

or man, but refers to what Taoists call "Yang." Similarly "feminine" is equivalent to the Eastern Yin concept. Obviously a typical male tends to identify more with the Yang traits, but all humans have "Yin" and "Yang" traits in varying degrees of balance at different times.]

Tarnas concludes in his Epilogue: "the evolution of the Western mind has been founded on the repression of the feminine - on the repression of undifferentiated unitary consciousness, a progressive denial of the soul of the world, of the community of being, of the all-pervading, of mystery and ambiguity, of imagination, emotion, instinct, body, nature, woman - of all that which the masculine has projectively identified as *other*."[159]

"This is the great challenge of our time, the evolutionary imperative for the masculine to see through and overcome its hubris and one-sidedness, to own its unconscious shadow, to choose to enter into a fundamentally new relationship of mutuality with the feminine in all its forms. The feminine then becomes not that which must be controlled, denied, and exploited, but rather fully acknowledged, respected, and responded to for itself. [...] I believe that the West's restless inner development and incessantly innovative masculine ordering of reality has been gradually leading, in an immensely long dialectical movement, toward a reconciliation with the lost feminine unity, toward a profound and multi-leveled marriage of the masculine and the feminine, a triumphant and healing reunion. And I consider that much of the conflict and confusion of our own era reflects the fact that this evolutionary drama may now be reaching its climactic stages. For our time is struggling to bring forth something fundamentally new in human history. [...] It affirms those indispensable ideals expressed by the supporters of the feminists, ecological, archaic and other countercultural and multicultural perspectives. But I would also wish to affirm those who have valued and sustained the central Western tradition, for I believe that this tradition - the entire trajectory from the Greek epic poets and Hebrew prophets on, the long intellectual and spiritual struggle from Socrates and Plato and Paul and Augustine and Descartes and Kant and Freud - that this stupendous Western project should be seen as a necessary part of a great dialectic, and not simply rejected as an imperialist-chauvinist plot. Not only has this tradition achieved that fundamental differentiation and autonomy of the human which alone could allow the possibility for such a larger synthesis, it has also painstakingly prepared the way for its own self-transcendence. Each perspective, masculine and feminine, is here both affirmed and transcended, recognized as part of a larger whole; for each polarity requires the other for its fulfillment. And their synthesis leads to something beyond itself: it

[159] Tarnas, Richard: The Passion of the Western Mind (New York: Balantine Books, 1993) pg 442.

brings an unexpected opening to a larger reality that cannot be grasped before it arrives, because this new reality is itself a creative act."[160]

In short, what Tarnas sees happening for the West is the end of Yang domination after at least 27 centuries. What he sees occurring now is *not* a shift of domination from Yang to Yin, but a new cooperative synthesis where *both* are honored in their own terms. The vignette about "A World in Balance" described such a society (Chapter 1).

7. A Humanistic View: Money and the Crisis of Meaning

"Nothing Human is foreign to me"
Classical Latin saying

There are many ways to define human beings. One of these, the conventional *"Economic Man"* -- whose characteristics date back to Adam Smith -- captures a part, but not all of human activities or motivations. The following table compares two ways of looking at that question.

Humanistic Viewpoint

Economic Man	***Relational Human***
Humans are beings with needs, they are rational decision makers, and pursue their own self-interests	Humans are beings with desires and fears, they are guided by their emotions and passions, and develop meaning through relationships.

The "relational human" substantially broadens the definition of what matters in human behavior. Note that meaning is always derived from relationships -- it can be with your children, God, your life partner, Nature, your country, your community, etc. It is therefore not surprising that living within a money system that promotes efficiency of exchanges at the cost of reciprocity and community (chapter 6), will also provoke a growing crisis of meaning. That is why Jacob Needleman's observation that "the only thing that money will not buy is meaning" is so valid. [161]

[160] Ibid. Pg 444 - 445
[161] Needleman, Jacob: Money and the Meaning of Life (New York: Doubleday Currency, 1994) pg. 239

The humanistic viewpoint integrates *both* the Economic and the Relational views as legitimate and concurrently valid descriptions of what humans are and tend to do. A dangerous blindness will result whenever one assumes that either one of these descriptions is the only valid one.

Money issues in particular are a domain where holding both views simultaneously is relevant, because money is the space where needs, desires, fears, rationality and passions tend to intimately intertwine. For instance, when one assumes that purely rational decision makers are active in financial markets it becomes impossible to understand the chronic cycles of financial booms and crashes. All booms and crashes can be shown to be collective money diseases.[162]

Seen from the humanistic perspective, the role of currencies that empower the human relationship dimension -- and are complementary to the competitive drives of personal interest -- become clearer.

8. A Taoist Viewpoint: All is About Balance

"Every explicit duality is an implicit unity"
Alan Watts[163]

Our Modern culture, our information sources, our values, even our words with which we communicate and think, always tend to polarize things. Whenever we make a distinction, "it rests on an assumption of opposition and a logic of negation."[164] For instance, in any Indo-European language when we think "cold," we are automatically implying "not warm" . The word "health" means the absence of disease, etc.

The Taoists, in contrast, never dichotomize their contraries the way we do. For instance, their best known polarity is Yin-Yang. We tend to translate this oriental concept as an expression of our familiar opposites. We, therefore, assume Yin-Yang to represent opposites: black *or* white, cold *or* warm, night *or* day, female *or* male, etc. Our normal interpretation is that black *excludes* the white, cold *excludes* warm, night is when it is *not* day, etc.

[162] An entire chapter of *The Mystery of Money* is dedciated to clarify the connections between rational and "irrational" emotional behavirors in financial booms and crashes, and how this phenomenon relates to money systems.
[163] quoted in Flemons, Douglas G. Completing Distinctions (Boston and London: Shambhala, 1991) pg. 112
[164] Flemons, Douglas G. Completing Distinctions (Boston, London: Shambhala, 1991) pg. 32

Taoists see Yin-Yang as *connected* to each other, as *necessary components to make the whole possible*. That is why they never refer to Yin *or* Yang, but always to Yin-Yang. In this way, they point to the link between them rather than the space that separates them. Yin is black only to the extent that the Yang is white. Yin is cold only to the extent that Yang is warm. The Yin is night only to the extent that Yang is day, etc. This difference in world-view is subtle, but critical. The Taoists look at the whole at the same time as the parts. Each part exists only because of the interface they create in the whole. In contrast, we tend to take one part and oppose it to the other.

The same distinction is made in martial arts, where Eastern traditions talk about the "soft eyes" which enable you to see *at the same time* your protagonist and the surroundings. Fly fishing requires similar "soft eyes" encompassing both the spot where the line is dropped and the entire river, in contrast with the "hard eyes" used for bait fishing where the focus remains only on the bobber. People who get good at bird or whale watching report exactly the same process. In short, Taoists are fly-fishing, while our very language tends to keep us stuck with bait fishing (see sidebar on Lao-Tzu).

For example, how many of you have read correctly

Lao-Tzu for the 21st Century

Taoism was founded by the Chinese scholar Lao-Tzu, about whom very little hard historical facts are known. Tradition describes him as the curator of the emperor's Imperial Library sometime in the 6th century BC. In his old age, he became disgusted with courtly chicanery, resigned from his respected post and decided to live as a recluse, leaving most of his belongings behind. He mounted a water buffalo to leave town when a gate guardian asked him whether he would please sum up all he had learned from a life spent with the best book collections of the Empire.

Lao-Tzu is said to have written then on the spot the shortest treatise on good living in existence, the *Tao Te Ching,* counting only 5,000 ideograms. (In fact, even this is now considered legendary, given that research has shown that this text was in fact not written until the 5th century BC.)

It starts with "The Tao that can be spoken is not the real Tao. The Name that can be named is not the Eternal Name." In other words, he is saying that language is the first barrier that prevents us from knowing the Way. He insists on the importance of living in a balanced flow, on valuing both the feminine and masculine, on equality between men and women. He emphasizes intuition, relationship with Nature and silence.

Lao Tzu was an elderly contemporary of Confucius, then an earnest, ambitious young teacher. Confucius proposed that men should learn to control their desires first, their wives second and their children third. Confucius formalized the patriarchal family control system in China, emphasized hierarchy, intellectual pursuits through reason and scholarly reading of the classics. All this was exactly at the opposite end of Lao Tzu's worldview.

***

Chinese history has seen several alternations between Lao Tzu's and Confucian priorities. Ultimately, 1800 years after both founder's deaths, under the intellectual influence of the neo-Confucian scholar Chu Shi (1130-1200 BC) Confucianism won decisively during the Sung dynasty. It became the official social system in China until Mao-Tze-Tung's communist take-over in the 1940s. .

I propose that we now have more to learn from Lao-Tzu than from Confucius, at least for the transition period in which we are now engaged. .

the title of this section: "All is about balance." Have you automatically read "it is all about balance," which has a different meaning? Or have you just decided that it was a typo?

If this text were written in Chinese ideograms, its readers would immediately understand what is referred to: the whole exists only because of the balance between the two parts. "All is about balance" is illustrated by the classical T'ai Chi symbol where the black and white create a single whole through their balanced interaction. Notice that not only does each opposite shape the other, but that at the heart of each polarity, the opposite is also present (the little white dot in the black side of the symbol).(see Figure 9.4).

On a lighter note, a similar point is made in the pun about a Buddhist monk requesting a food vendor: "Make me one with everything."

Figure 9.4: T'ai Chi Symbol

The point here is to illustrate the subliminal power of our language which automatically makes us read what we expect, rather than what is there. Our very words will automatically make us project and see polarities where, in fact, harmonious interaction may be present as well, or even predominantly present.

The Taoist viewpoint also provides us with some useful economic distinctions concerning the four forms taken by capital. Predictably, traditional economics acknowledges the existence of only the two Yang forms of capital: physical capital (plant, equipment, real-estate) and financial capital (stocks, bonds, cash, and "intellectual property" such as patents and trademarks). It therefore ignores the role of the two forms of Yin capital: natural capital (e.g. clean water or air, biodiversity, etc.) and social capital (e.g. family or group solidarity, peace, quality of life, etc.). This denial is remarkable, given that Yang capital would simply not survive without a continuous input from the Yin capital forms.

	Yang	**Yin**
Non-material Level	Financial capital	Social capital
Material Level	Physical capital	Natural capital

Finally, Taoist wisdom would warn us that the tendencies of a dominant Yang to suppress the other will be dangerous to the whole, and ultimately deadly harmful to the Yang itself.[165]

9. A Whole Systems Viewpoint

A *systems approach* involves identifying four aspects of a given reality: its *structure* (i.e. the actors, individual or collective), the *processes* (interactions between actors), the *rules* (e.g. laws of nature or human laws governing the system), and the *context* (interactions of the system with other systems and the broader environment). Ideally, the *whole systems* approach reduces the context to a minimum by integrating as many relevant aspects as realistically possible.

I will now use the whole systems approach to two types of systems - the relationship between governance and money on the one side, and the Taoist Yin-Yang concepts on the other - and then combine them.

[165] A rigorous treatment of this ideas, expressed in the language of Western systems theory, has been made available by Yongming Tang. Tang, Yongming "Fostering Transformation through Differences: the Synergic Inquiry (SI) framework" Revision Special issue on Transformative Learning (Volume 20, Number 1, Summer 1997) pg 15-19

Governance and Money

There has always been a relationship between values, governance, money and economic self-determination. That relationship is best explained by the following graph (Figure 9.5)

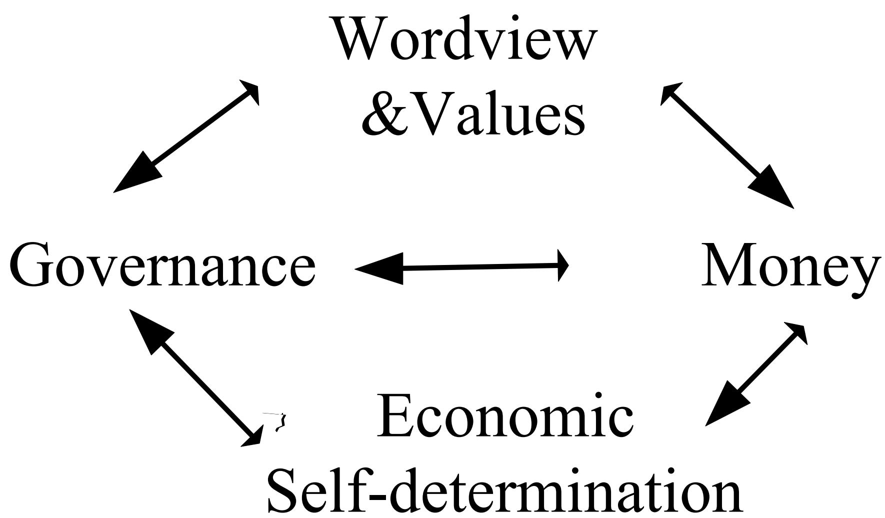


Figure 9.5 Relationship between Values, Governance, Economic Self-Determination and Money

World-view and values shape the kind of governance a society develops: the most obvious historical example is the elaboration of the American constitution as a result of debates among the Founding Fathers which the "Federalist Papers" reveal quite consciously imbued with values. To my knowledge, the design of a money system has never had the benefit of such an openly public and conscious debate; but money systems are saturated with mostly unconscious values and priorities as well. In turn, governance and money systems pretty much determine the extent to which a society -- or the group who created the governance and money systems -- will attain economic self-determination, and thereby perpetuate their socio-economic position.

It can also work the other way around. I have shown earlier that money systems continually reinforce or inhibit certain values. An example of this are our conventional currencies which foster competition (Chapter 2) and contribute to community breakdown (Chapter 6). The reinforcement of these values and the segments of society which benefit from increased economic power will then in turn modify the governance systems. So whenever there is a change in any one of these four domains, it is always useful to check on what happens to the others. It is the convergence of changes in all four fields which determines whether the change will be stable in the long run or not. Let us now apply this framework to two cases of significant historical changes: during the Industrial Revolution and what is happening in the world today.

- In the case of the Industrial Revolution changes in all four domains affected both the previous elites (the landed aristocracy) and the poor (the subsistence farmers). New governance systems came into being in parallel to the economic power shift. Specifically, nation-states replaced kingdoms of divine right; and national central banks became the managers of the currency instead of the sovereign's mints. There has been and will always be a lot of debate among historians which one of the four variables was *the* cause of the shift, but what really matters for us here is simply to notice a complex interaction which ended changing all four into a new and stable coherence of the Modern nation-state.
- Today the dominant global economic system is undergoing its biggest mutation since the beginning of the Industrial Age. The current shift toward the Information Age promises to similarly affect at least part of the old elites and of the new poor (the lesser skilled industrial and service workers). New governance systems are again appearing: power is shifting toward institutions such as the World Trade Organization (WTO) and the global corporations which lobbied for it; and fully integrated global currency markets are becoming the real powerhouses of the global currency system.

Governance: Local and Global

However, there is also a whole other level of governance which is only just in its infancy at this point. The astounding rise of the importance of non-government organizations worldwide is a telltale sign. The most significant social innovations and trends over the past decades - from the green movement to human rights - did not originate with governments or political parties, but as self-starting private non-profit initiatives. More revealing still, Carolyn Lukensmeyer (Founder and

President of the grass-roots organizations America Speaks and America Discusses Social Security) made a two-year survey of the nature of activism in America in the 1990's compared to the 1960's. She made the interesting observation that contrary to generally held opinion, there is in fact *more* activism now than in the 1960's but that it is mostly invisible and of a totally different nature. The following table compares the two periods

Characteristic	**1960's Activism**	**1990's Activism**
Geographical Spread	National	Local
Orientation	Against Something or Someone	In Favor of Solutions
Scope of Issues	Single Cause (Racism, Vietnam)	Multi-Cause
Visibility	High Media Coverage	Low Media Coverage

Paradoxically, the trend towards globalisation has sparked off a countervailing trend towards reinforcement of local governance.

Seen from this perspective, the appearance of the local Yin currencies are really just the visible part of a much bigger iceberg: the emergence of a new grass-roots governance system. People have lost confidence that the national governance system can or will provide valid solutions to their problems. They therefore start organizing themselves locally to address some issue of particular urgency, but fairly quickly branch out to include many different problems (from unemployment to care of the elderly, from child tutoring to environmental restoration). Complementary currencies fit in perfectly in such a process as it provides a powerful and flexible tool to mobilize their local resources. This broader perspective shows the depth of the significance of complementary currencies.. These complementary currencies are the key link toward attaining a minimum of economic self-determination for these local communities, something which will become of vital importance as the Yang economy continues to globalize and further reduces the power of the national governments to provide such self-determination at a national level.

The Yin-Yang Coherences

I will now integrate the Taoist vocabulary of Yin - Yang into economic systems. This aims not at exotism, but because I hope this terminology will remind us to think in holistic ways, instead of in the polarities which our Indo-European languages have embedded in our consciousness.

Humans create coherence: they feel, think and perceive realities according to the coherence in which they live.

For instance, the belief in a Transcendent God will tend to increase the perceived need for absolute certainty and central authority. In such a world, hierarchy and competition to "climb up the ladder" is to be expected. Furthermore, a rational, analytical, logical and linear mode of thinking is more likely. The world will be seen as completely explainable by cause and effect, and that Parts explain the Whole. In addition, a "Bigger is Better" and technocratic mentality will tend to prevail.

Stated more generally: a *Yang coherence* shapes thoughts, actions and emotions ranging from the perception of God and the world to daily minutia.

The following graph elaborates on the Yin - Yang coherences. It can be read up-down to see each internal coherence, or horizontally to grasp what the Taoists would call the connective contrasts between the two world-views.

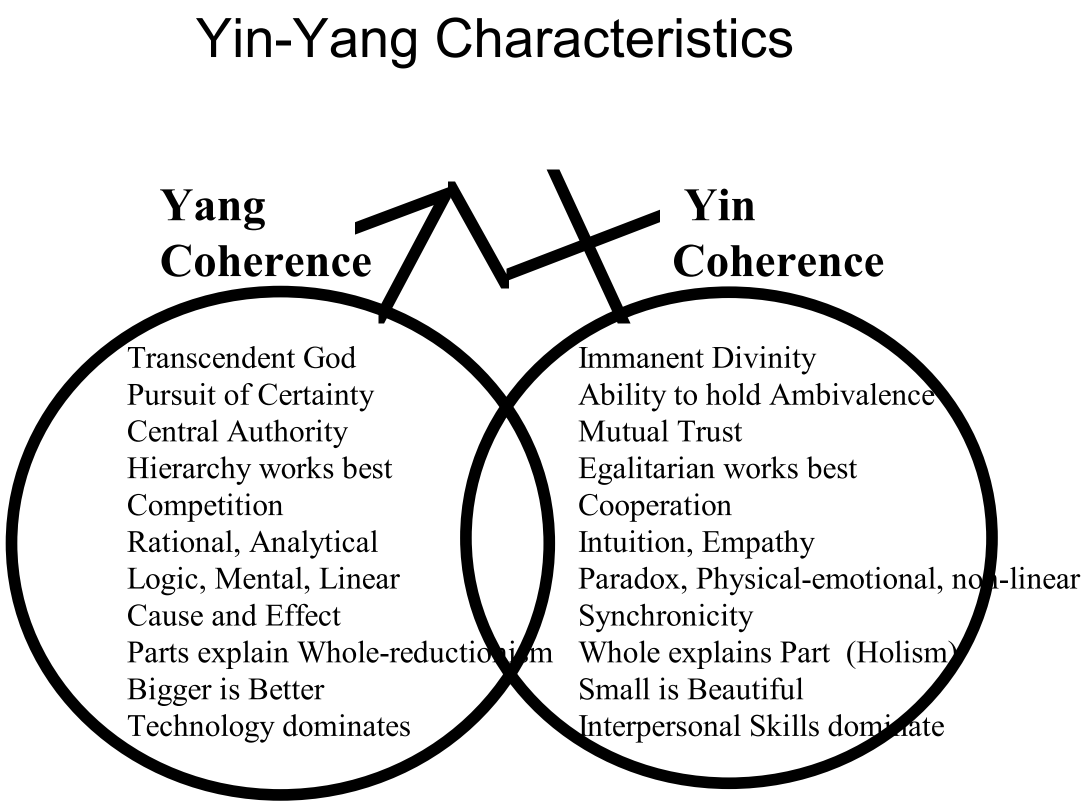


Figure 9.6 Map of Yin-Yang Coherences

For probably more than 5,000 years -- and certainly over the past 2,700 years covered by Tarnas -- Western societies have tended to acknowledge the legitimacy of one of these polarities: the Yang coherence. It has been embodied in a patriarchal social control system in all aspects of life from organized religions to science, from military power and politics to day-to-day jokes. It has been so pervasive that its superiority has long been considered natural law. Even our capacity to observe the world is tainted by such a bias

. For example, our ability to observe animal behavior "objectively" is affected (see sidebar).

Integral Economics: Complementary Yin-Yang Economies

The concepts of Yin-Yang coherence (Figure 9.6) can now be overlaid with the competitive and cooperative economic circuits (Figure 5.2). This overlay produces the following combination (Figure 9.7). It illustrates the potential role of a fully developed Yin economic cycle as a necessary complement to the traditional Yang economy. The graph illustrates how each perspective, the Yang or the Yin side of the economy, can be in Tarnas' words "both affirmed and transcended, recognized as part of a larger whole; for each polarity requires the other for its fulfillment" [167]

Animal Behavior and Yin-Yang Coherences

Here are the social behavior patterns of two different species of "social hunters" (animals who hunt in groups). One is very much admired and the other despised in our collective narratives.

- In the first case, the dominant animal in the group does not participate in the hunt, but is the first to eat. This happens to the point that the main cause of dead of the young is malnutrition. When one of the animals is wounded, the group tends to abandon it.
- In the second case, the dominant animal actively leads the hunt, but the young eat first. When one animal is wounded it is fed and taken care of by the group.

The first case is the lion, where the alpha animal is male. The second case fits the description of both the wild dog and the hyena, where the dominant animal is female.[166]

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How come that in Western and African societies there are lots of emblems and stories featuring the lion in a positive light, and none about hyenas or wild dogs?

[166] For details about the amazing social behavior patterns of wild dogs see McNutt, John and Boggs, Lesley Running Wild: Dispelling the Myths of African Wild Dog (South Africa: Southern Book Publishers, 1996).
[167] Tarnas, Richard: The Passion of the Western Mind (New York: Balantine Books, 1993) pg 445.

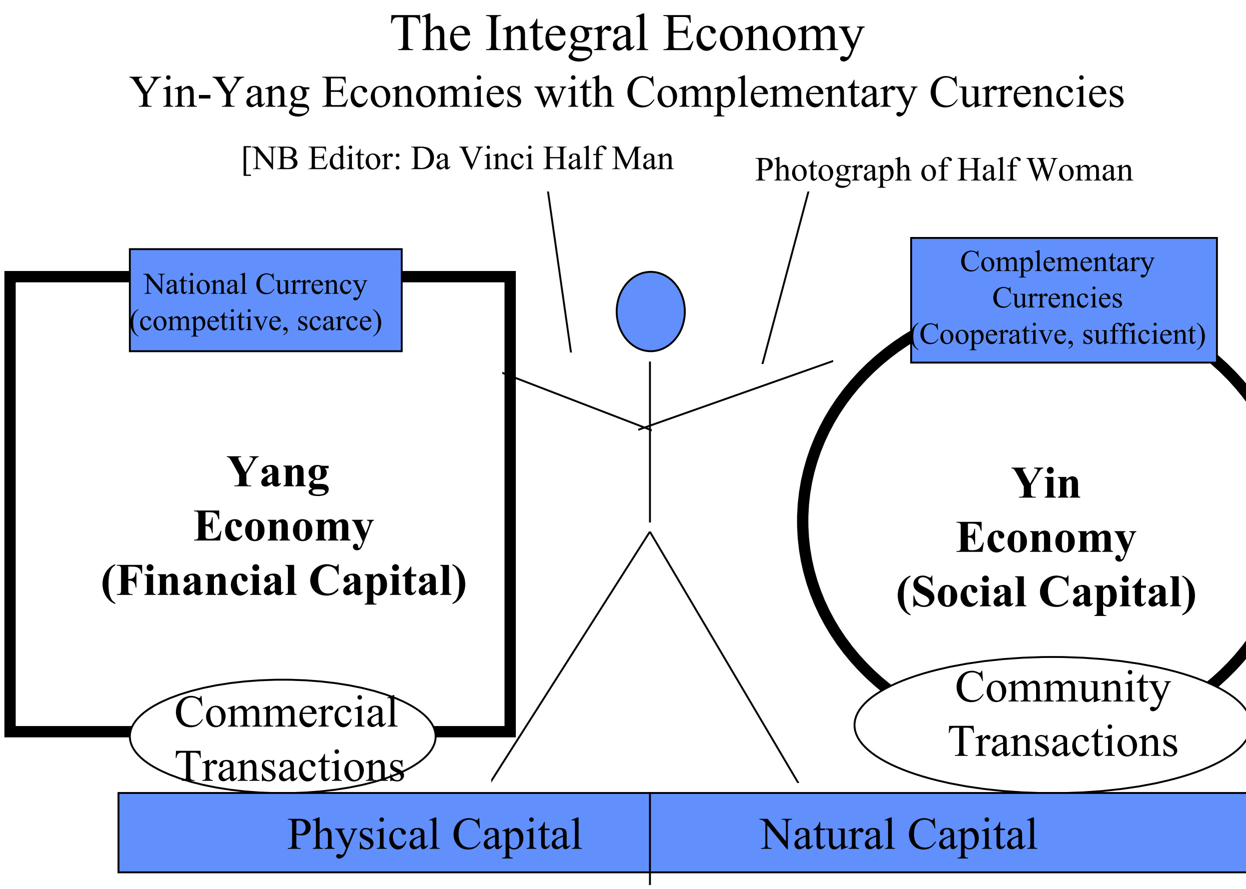


Figure 9.7 Integral Economics and the Yin-Yang Complementary Economic circuits

The human figure facing you at the center of the Figure represents our collective energy, *all* of our economic activities (Figure 9.7). The circuit on *its* right hand side (left on the image) is the Yang economy, fueled by the normal national currencies, which automatically generate competition among the participants as we have seen in the "Eleventh Round" (Chapter 2). This is the dominant economy. To most economists, it is the only economic system around. It recognizes physical capital, and aims at generating financial capital.

The circuit on its left side would include either the gift economies of yesteryear, or the emerging cooperative community building currencies of today. It represents what we saw in Hazel Henderson's figure as the Social Cooperative component and the non-Monetized economy (Figure 9.2). This economy is mostly invisible to economists today, but if it were systematically encouraged instead of destroyed as has occurred almost invariably in the past, it could grow to become a significant part of the full system. It could eventually provide a balance to the weight of the Yang activities. It acknowledges natural capital, and aims at generating social capital.

If it is true that the unemployment process in the Information Age has a structural component, I claim that it is in everybody's interest , including the participants in the Yang economy, to see a stronger development of the Yin economy through all means at our disposal, including the formal encouragement of complementary currencies; even through tax incentives. Why?

Remember the vicious circle of unemployment (chapter 5)? When a growing number of people are structurally unemployed, they don't just disappear. They will either become "economically irrelevant," and therefore a permanent potential source of violence and problems for the rest of society, which can be very expensive indeed (including "pensions for life" in prisons). Or they will, as proposed by Jeremy Rifkin, be supported by taxes on the Yang economy (see Figure 9.8). Either way, the Yang economy is shooting itself in the foot whenever it tries to stifle Yin type initiatives as it historically has tended to do. By blocking a Yin currency and economy, by insisting on a monopoly of Yang economy, the Yang economy also has to transfer resources via taxation to the Yin economy. From a Yin economy viewpoint, these transfers have proven invariably insufficient for the needs at hand. Would it not make more sense from both sides to enable a Yin economy to fully blossom with its own complementary currency in sufficiency?

Yin-Yang Economies with Single National Currency

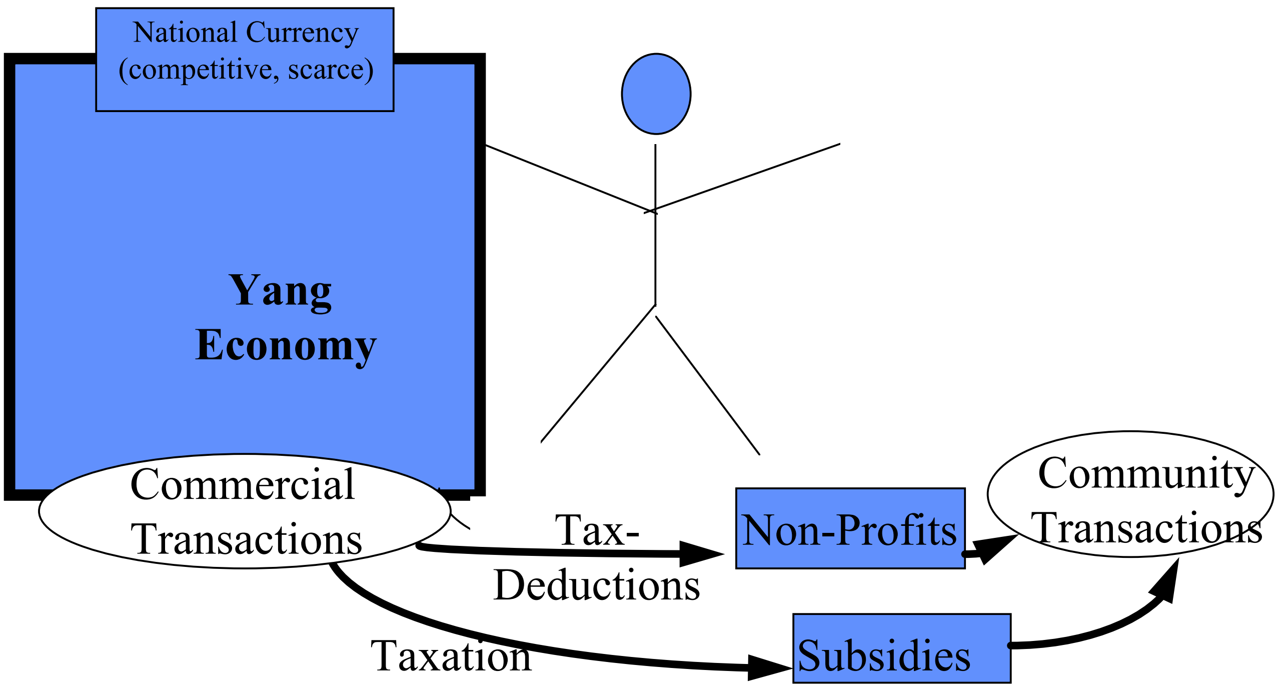


Figure 9.8 Classical Approach within Single Currency framework

New Yorker Cartoon
"Trickle down..."

There is a growing awareness of the need for "social capital" in a healthy society. Cooperative currencies are simply a tool to foster it. Exactly as the Yang cycle is the space where financial capital is taken care of, in the Yin cycle the social capital is being nurtured and developed. It is time to recognize that both types of capital -- financial and social -- are indispensable for human activity to flourish.

To summarize: The Integral Economy has as purpose to make available Integral Wealth. I therefore define wealth *not* as an accumulation of money. *Integral wealth is developed only when all four types of capital - natural, social, financial and physical - are in appropriate balance.* By confusing wealth with only financial capital, we run the risk to believe that we can run down our natural or our social capital indefinitely. Below a certain level of natural or social capital however, it is obvious that financial capital has no relevance anymore: a huge bank account in a wasteland of social disorder or ecological collapse is meaningless. As the bumper sticker claims: “No Planet, No Business”

A Map of Complementary Yin-Yang Currency Types

One useful way to look at all the different currency systems described in this book is to classify them according to their Yin or Yang polarity. Two sets of criteria will be applied:

- Scarce / Competition-inducing, or Sufficient / Cooperation-promoting on the one hand;
- and “fiat” or “backed” currencies on the other.

Just a reminder: “Fiat” currencies are those that require a central Authority to be created and maintained. “Backed” currencies are created by whoever owns the commodity or service used as reference, and its value is guaranteed by that commodity or service.
The following map describes the resulting framework.

Figure 9.9 Map of Yin-Yang Currency Types

Currencies which cumulate the two Yang characteristics of competition-induction *and* are “fiat” currencies (and therefore need a central authority) will be called “strong Yang” currencies. (Note that I follow here the traditional Taoist terminology, and “strong” does not mean “good”, just as “weak” does not imply “bad”.) Following these criteria, all our traditional national currencies are “strong Yang” currencies. .
In contrast, currencies which remain in short supply but do not need a strong central authority to be created (such as barter credits or the Global Reference Currency) could be called a “weak Yang” currency.
On the Yin side, Ithaca Hours as all “fiat” currencies requires centralized control by the issuer, but otherwise is designed to induce cooperation among its participants (a.o. it is interest free currency).

They will therefore be called a "weak Yin" currencies. The currencies which cumulate the two Yin characteristics of uncentralised issuance *and* cooperation encouragement would logically become "strong Yin" currencies. This is the case for all forms of mutual credit complementary currencies such as LETS, Time Dollars, or ROCS..

It is worth repeating that the labeling of "strong" or "weak" should not be interpreted as a value judgment, but in the traditional Taoist way. They are simply as an indication of the accumulation of Yang or Yin characteristics that each currency type exhibits.

Each one of these currencies has its own valid niche, and could be the "ideal" currency type for a given circumstance. For instance, social capital is best nurtured by cooperation-inducing Yin currencies, while global industrial trade would be best handled by competition-generating Yang currencies. This graph also illustrates the *complementary* role that each of these currency systems can play to the others.

Another way of using this map is by becoming aware of the way *relationships* will be shaped by the different moneys used. Any currency is about relationships. All other things being equal, different kinds of currency will tend to induce different kinds of relationships among its users.

In groups where you want to create a cooperative, egalitarian, Yin type of relationships, use Yin type currencies. In contrast, the trading with Yang currencies will tend to shape competitive, hierarchical relationships, perfectly appropriate for certain contexts like business. Both types of relationship have their appropriate role in one's life. There is nothing magical about this. When reciprocity is built-in the very process of currency creation, and when the currency is available in sufficiency -- both conditions being fulfilled in mutual credit currency systems -- the exchanges using this currency will tend to be more compatible with community creation (Chapter 6). The above map just helps avoiding confusing the genres.

This logic is not to be driven to ridiculous extremes, like believing that it would be sufficient to give a Yin currency to a gang of murderers in order for them to transform into lambs. "All other things being equal" is a relevant *caveat* here. However, how many apparently loving families have been torn apart from the moment when competition and fighting for a scarce currency broke out?

The French author Antoine de Saint-Exupery expressed this dynamic this way:

"If you want people to fight, throw them a bone.

If you want people to cooperate, have them build a tower."[168]

[168] Saint-Exupery, Antoine Citadelle

Chapter 10: Sustainable Abundance

"History is a race between education and catastrophe"
H.G. Wells

"Because of the interconnectedness of all minds,
affirming a positive vision may be about the most sophisticated action
any one of us can take"
Willis Harman (1918-1997)

"Let us be of good cheer, remembering that misfortunes hardest to bear
are those that never come."
James Russell Lowell (1819-1891)

"Let's be optimistic.
Pessimism is for better times."
Anonymous

Sustainable Abundance is a scenario, and will follow the same format as the other scenarios described in Chapter 4. It assembles all the pieces of the puzzle identified up to this point. Sustainable Abundance will be explored through "A Visit to the Stanford Campus". This story highlights the role of three overlapping waves – a Value-Shift Wave, an Information Wave and a Money Wave -- in creating Sustainable Abundance. In conclusion, the relationships between Sustainable Abundance and the other scenarios outlined earlier are analyzed.

A Visit to the Stanford Campus

The other day, I was fiddling with some of the unfamiliar handles of the Time Compacting Machine (Chapter One pg ***), and I must have done something wrong. . Suddenly, something quite unexpected happened. I ended up doing some accidental time travel to the campus of Stanford University on the first day of the academic year. Here is a report of what I found.

A Time Travel Report

The site was immediately familiar -- I could perceive the emblematic Hoover tower and the surrounding neo-Spanish buildings immersed in the atmosphere of excitement and hesitancy typical of large groups of first-day Freshmen mulling around.

I went into the Economics Department building. A sign in the hallway in front of the first classroom door stopped me dead on my tracks. It read:

Fall Semester 2020

Ecosophy 101

That is when I started to suspect that I had somehow ended up in the future....

In the room, a very attractive mature woman was starting to lecture.

"Once upon a time people actually graduated with degrees such as Economics, Business Administration, Monetary theory, Psychology, or even Sociology and Political Science without having a firm foundation in Ecosophy. It seems that at that time there was no awareness that this would be as dangerous as having a 'Doctoral Degree in Stomachs' for example without any understanding about food, blood circulation or the nervous system.

The origin of the word 'ecosophy' is similar to the etymology of the words 'ecology' and 'economy'."

She started writing with what looked like a small laser-light pen, and the text appeared simultaneously floating in the air a few feet in front of three walls. I thought "some holographic laser technology: I am definitely in the future..." Three neat columns of words appeared as follows:

Greek Roots	Contemporary Words	Initial Meaning
oikos = household	**Ecosophy**	**Wisdom of the household**
Sophia = Wisdom		
logos = knowledge	**Ecology**	**Knowledge of the household**
nomos = rule	**Economy**	**Rules of the household**

"Ecosophy is about how to live wisely on this planet. How our economic, monetary, business, political, sociological, psychological and ecological constructs and activities all interact and affect our collective presence on this planet. It constitutes the indispensable common foundation underlying any one of the fields of knowledge mentioned earlier. It looks at the human species within the context of the broader biosphere with which we are interdependent.

Ecosophy is only one of the signs that our civilization has moved from Modernism to what we now call the Age of Integration. The main seeds for this shift can be traced to changes in interpretations of the physical universe which started over a century ago. Exactly as what happened with previous mutations in world-views -- as for instance the Copernican Revolution five centuries ago -- it is the interpretation of the physical universe which has provided the leading indicator of a shift in civilization.

For many centuries people had seen Mother Nature as an orderly extrapolation of the human mind. Descartes saw Her as spiritless matter which could be apprehend only by analysis of smaller and smaller parts. Newton saw Her as a well-behaved inert machine set in motion by God and driven by eternal laws, the knowledge of which would deliver Her to our control. All this started to change when the theories of relativity, quantum physics of the first half of the century, and the theories of non-duality and complexity of the second half, became accepted as valid interpretations of reality. They provided the mental framework for our era. The works of Einstein, Heisenberg, Bohr, and later in last century Bohm, Feynman, Prigogine and the dozens of names involved in Chaos and Complexity theories were all key milestones in that process.

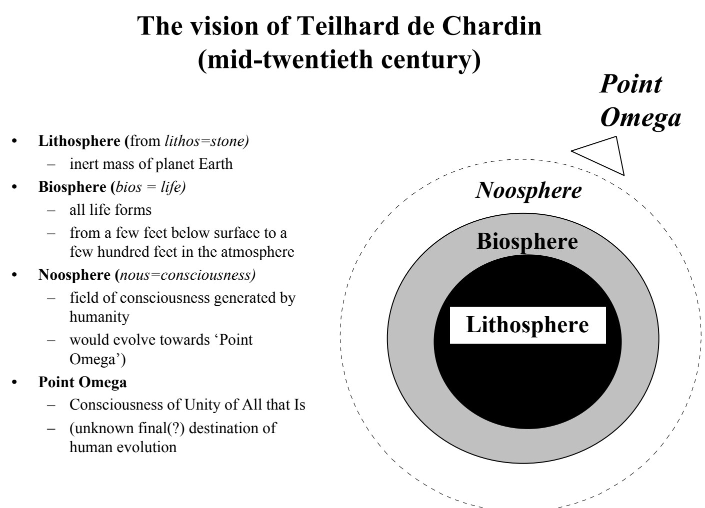
The old metaphors of the world as a soul-less machine with humans as separate “objective” observers have been replaced with a living and learning world with whom humans communicate and share part of the responsibility of its evolution. Some say that we have been forced into this new world-view to be able to deal with the global issues such as pollution, deforestation, climate changes or the weakening of the ozone layer.

One key Integration catalyst was also a paradox. It arose when one of the most “*Yang*” technologies of the entire Industrial Age - the computer - spawned for the first time a perfectly “*Yin*” space where such an Integration could flourish without constraints. I am referring to the “cybersphere” which succeeded the old Internet. The paradox is even stronger when taking into account that all this was developed initially for the US military at the end of the Cold War. New synergies between the virtual world and the physical world gave rise to the *Integral Economy*.

[As a reminder, the cybersphere is the virtual space where all earlier communications technologies such as telephone, TV, computers and payment systems converged into a coherent whole (chapter 3 and 4). The concepts of "*Yin*" and "*Yang*", and of the "*Integral Economy"* will be explained below.]

The Professor continued "To understand the full scope of that process, a framework initially coined by the mid-Twentieth century anthropologist Teilhard de Chardin will prove useful."

Suddenly a crisp diagram appeared as if floating in vibrant primary colors a few feet in front of all four white walls of the room. The Professor moved in between the front graph and the wall. I also became aware at that point that she seemed to address a larger audience than the students sitting in the class. "Some form of distant learning technology" flashed through my mind.



She moved close to the diagram and commented "Teilhard got inspired by a little known work entitled "The Biosphere" by a Russian biologist of the 1920's named V.I. Vernadsky. Teilhard generalized that concept by seeing the evolution of our planet in embedded 'spheres'. First the 'Lithosphere' which represents all the inert matter of this planet; then the "Biosphere' which regroups all life-forms. It looks like a more or less dense 'biomass-crust' around the inert matter, represented here in green. It is physically located in a thin layer including a few feet below and a few thousand feet above earth's surface, including the water and the lower reaches of the atmosphere for birds, airborne insects and micro-organisms. It is only during the 21st century that humans finally shed the illusion that they can disconnect from Nature. Only recently have they truly understood that there is only *one* life-form on Earth - the biosphere - and that the entire human species plays a role similar to an organ in our own body.

The next layer up, the Noosphere, represented here in blue - she pointed to an almost diaphanous zone in the graph - is more etheric. It is the space where all forms of consciousness interplay, including human consciousness. What Teilhard saw was that - as humanity became more conscious of its interdependence - it would also grow in the awareness of its Unity. He thought that the objective of human evolution would be what he called "Point Omega," a cosmic consciousness of Unity respectful of all diversity.

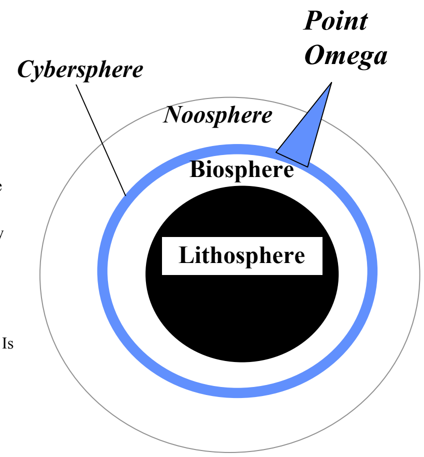
However, what Teilhard did not see is *how* such a mysterious process could occur. Remember, he wrote his major works around the time of World War II and its aftermath. It is amazing that - under these circumstances - he could foresee even the direction of the next evolutionary step. Well, to us now the means by which this consciousness shift would accelerate has become obvious."

She approached the diagram and touched the diaphanous edge between the Biosphere and the Noosphere circle, and it smoothly transformed into a vibrant violet edge so that the full diagram ended up as follows:

The vision of Teilhard de Chardin
Role of the Cybersphere

- **Lithosphere (**from *lithos=stone)*
  – inert mass of planet Earth
- **Biosphere (***bios = life)*
  – all life forms
  – from a few feet below surface to a few hundred feet in the atmosphere
- **Noosphere (***nous=consciousness)*
  – field of consciousness generated by humanity
  – would evolve towards 'Point Omega')
- **Point Omega**
  – Consciousness of Unity of All that Is
  – (unknown final(?) destination of human evolution

– **Cybersphere** = Virtual Space in which Integration towards Point Omega is occurring



"The cybersphere is simply the link between Teilhard's Noosphere and its destination, it is the virtual space in which human consciousness toward Integration has been able to manifest. It plays a role similar to the one the lithosphere has been playing for the biosphere. All life forms use inert chemical components of the lithosphere and re-organize them to create their physical life support systems. When computer technicians in the Twentieth century thought they were just creating a computer network, they were in fact creating an additional dimension and a new type of space.

In retrospect, the last decades of the 20th century play a role similar to what biologist have called the Cambrian explosion. Five hundred fifty million years ago a sudden mutation occurred in the biomass: single-cell life saw a burst of biological diversity and complex multi-cellular organisms proliferated. Hundreds of million years later, the emergence of photosynthesis, and later still the joint appearance of sexual reproduction and individual death were similar milestones. Evolution apparently undergoes such quantum transformations. From this perspective, life has entered digital space using humanity as a surrogate. In the cybersphere life is freed from the confines of slow molecular recombination, can travel at the speed of light, even off this planet as needed..."

***

I moved to the classroom next door, overhearing what appeared to be an introductory course in Economic History.

"During the early stone age, humans used literally the same tool for many different purposes: a broken stone fragment would be used for everything from killing prey to cleaning one's nails afterwards. During the Nineteenth and Twentieth century there seems to have been a similar fixation with trying to use the same monetary tool -- national currencies -- to do everything from global trade to paying for someone's education or for elderly care. To use another metaphor, this would be similar to assuming that the nervous system is the only information carrier in the human body, ignoring the role of the blood circuit, the lymphatic system and a wealth of biochemical links.

This idea of "one fits all" in monetary systems finally had to be abandoned when information and nano-production technologies ensured that the majority of the population had no production-related 'jobs'. Today, less than 30% of the world's population still has full-time jobs of that type. This has freed the vast majority of the people to dedicate themselves instead to whatever they feel most passionate about - their 'work' - mostly in their local or virtual communities. The old scarce national currencies had never been designed to support such an explosion of random creativity.

Of course, many of the Industrial Age economic concepts such as Gross National Product (GNP) or unemployment had to be revised. Both originated as ways to measure military potentials in the earlier decades of the Twentieth century. Among other flaws, GNP measured only those activities which involved exchanges in national currencies. This led to increasingly strange anomalies. For instance, identical activities (e.g. someone taking care of a sick child) would be classified as 'employed' and part of the GNP - or not - simply because in one case she was paid for the service in national currency and not in the other. This amounted to a straight denial of the reality of the actual service rendered for free.

The old measures of GNP were still confusing crude growth with smart and wise growth.

The Information Age objective of "Full Potential" has now replaced the Industrial Age idea of "Full Employment." "Full Potential" refers to the use of someone's learning capacity and the opportunity to fully develop one's gifts. Just as was the case with Full Employment, one can never reach 100% of the Full Potential for a population.

In retrospect, it was only by liberating the extraordinary potential of human creativity, of *all humans,* that there was any hope for planet Earth. Human creativity was something which in past generations was the privilege of only a tiny minority: a few artists, scientists and some other members of the intelligentsia. Even on the basis of the old narrow definition of 'employment' at least 700 million adults were routinely 'jobless' on the planet in the 1990's. In terms of evaluating their "Full Potential" at the same time, estimates by our economic historians say that less than one per thousand of humanity reached it. They were considered rare "geniuses." Add to this the extraordinary fact that only two of the nine forms of intelligence were being recognized, and therefore developed and measured in the education system; i.e. the verbal/linguistic and the logical/mathematical, both with a "Yang" bias. The other seven forms of intelligence used to be simply ignored. So it was very rare that the development of a child took into account these other seven modes of learning : i.e. the musical, spatial, bodily/kinesthetic, intrapersonal, interpersonal, pattern recognition and intuitive/mystical.[169] In short, the capacities of the human potential used to be dramatically underestimated, not to speak of developed and used to address our challenges. It is amazing that humanity made it as far as it did back in the Twentieth century. It really looks from today's perspective, that our species was asked to engage in a race blindfolded with feet and hands bound. A 20th century pioneer, Duane Elgin, claimed that humanity has always been at its best when its capacities are challenged to the maximum. We either radically and consciously changed toward sustainability in all domains, or we just would have to disappear like the great lizards did before us.

The secret of the shift has been a succession of three waves which overlapped in time around the turn of the century. These three waves were:

- A Value-Shift Wave in which the old Modernist values were gradually commuted into the values of the Age of Integration.
- the Information Wave which enabled unprecedented access to knowledge for vast numbers of people;
- and the Money Wave whereby new money systems complemented the old national currency system.

In the 1990's most people only were aware of the Information Wave. It was the one that the media

[169] The first seven of the total nine mentioned here were already identified by Howard Gardner in Project Zero at Harvard and documented in his Frames of Mind: The Theory of Multiple Intelligences (Tufts Univ. Press, 1993)." Another version of the same thesis is Armstrong's Seven kinds of Smarts: Identifying and Developing your Multiple Intelligences (Plume Books, 1999).

focused on at that time. But in reality, all three mutations were in fact already well on their way if one was willing to peek beyond the reports from officialdom.

Together, these three waves have given rise to accelerated change in our economic system, where the cybereconomy has become what it is today: the largest and still the fastest growing economy in the world. That is why the cybersphere is the best place to observe the current status of our monetary system. As you know, our continuously evolving money system operates simultaneously on different levels, ranging from the global to the local. The main advantage of such a multiple level money system is that each type of activity is supported by the kind of currency best adapted to the circumstance. Convertibility among the different currencies is ensured on the Net whenever that is needed. These different systems interact as an organic whole, where each component continually evolves to adapt to the demands and opportunities of the environment in which it operates.
Now let us see the main milestones which got us from last century's quandaries to what is being hailed as the Age of Sustainable Abundance for humanity." One of the first landmarks was paradoxically a dorky computer bug, known as the Millennium Bug[170]..."

Suddenly I saw the scene fading away in front of my eyes, and found myself in a daze back in our own time. Much to my great frustration, I may never know for sure how we got there....
Oh well, I should remain open to life's many surprises, I suppose...

The balance of this chapter provides the evidence supporting the claims of the Professors of 2020, evidence that is available in 1999.

[170] see the description of that Millennium Bug in the "Careful Communities" Scenario of Chapter 1.

Defining Sustainable Abundance as a Yin-Yang Synergy

Sustainable Abundance was defined earlier as the characteristics of a society that satisfies its needs without diminishing the prospects of future generations, while *simultaneously* providing freedom of choice and creativity to as many people as possible (Chapter 4). Notice that humanity is bound to reach *some day* willing nilling at least one of the two components -- sustainability. One can only argue over how much time that will take, whether it will be achieved by design or after a major breakdown, and whether conscious change can be mobilized for this purpose.

The planet itself is sustainable. The open question is whether it will include us.

> ***Sustainability: A Synthesis of Views***
>
> "Sustainability is a rallying cry for hope. It postulates that there can be a future design of society in which environmental degradation and extremes of social inequity are avoided on an ongoing basis. As an agenda, it implicitly calls for a sense of responsibility and action sincerely aimed at improving or changing our current way of living, and adverting what many feel is a looming social, ecological and economic crisis."
>
> Global Business Network Report on Sustainability[171]
>
> ***
>
> Sustainable development is growth in welfare without physical growth. It is a process and not a state, and therefore does not necessarily imply that the population or the economy are static or stagnant.
>
> "Brundtland Report: *"Our Common Future"*[172]
>
> ***
>
> Former World Bank Economist Herman Daly [173] proposes three conditions for a society to be physically sustainable:
>
> 1. The rates of use of renewable resources do not exceed their rates of regeneration.
> 2. Its rates of use of unrenewable resources do not exceed the rate at which sustainable renewable substitutes are developed.
> 3. The rates of pollution emission do not exceed the assimilative capacity of the environment.
>
> ***
>
> Biologists Paul and Anne Ehrlich[174] propose a simple equation showing the role of technology in reducing the overall ecological impact:
>
> Ecological Impact = Population x Affluence x Technology
>
> If population doubles one last time over the next 50 years, and Affluence quadruples, then Technology needs to reduce the impact by at least 1/8 to maintain an impact similar to today.

What I am proposing here is that humanity reaches sustainability within a time span of one generation, rather than later (sidebar). This could be achieved by following a monetary strategy that would unleash the extraordinary creativity of which humans are capable, and tap the capacities of the technologies of abundance that are now becoming available. The strategy proposed would also avoid the massive suffering that a monetary collapse would entail. Taking some precautionary measures now will be infinitely cheaper than trying to repair damages later. A spare tire may look useless most of the time, until one has a flat in an awkward place...

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171 Tibbs, Harding, Report for the Global Business Network "Sustainability" Deeper News (Vol. 3, number 1, January 1999) pg. 5.
172 World Commission on the Environment and Development Our Common Future (Oxford University Press, 1989) pg 200.
173 Daly, Herman E. and Cobb, John B. Rot ehe Common Good (Boston: Beacon Press, 1989).
174 Ehrlich P. R. et al Ecoscience: Population, Resources, Environment (San Francisco: W.H. Freeman, 1977).

Notice also that Sustainability is Yin in nature, while Abundance is a Yang concern. Many people/organizations focus on *either* sustainability (e.g. the ecological movement) *or* abundance (e.g. the corporate world), but *not both*. Of course there are many activities where sustainability and abundance are genuinely in conflict. If you want an abundance of timber, you will have to cut more trees; if you have an abundance of cars, expect pollution and traffic jams. However, fortunately such intrinsic conflict is not valid in all domains. Specifically, the three waves described by the Stanford Professor of 2020 happen to be activities where sustainability and abundance are not only compatible but synergistic.

That is why I became so curious to discover what is already visible *now* of what the Stanford Professor of 2020 credited for the shift towards Sustainable Abundance. Here is a synthesis of the evidence I have found so far.

Toward Sustainable Abundance: Making Waves

Opportunities seem to come in bunches, like grapes or bananas. The three waves are indeed building on each other. The Value-Shift Wave has been until now largely unreported, but underlies the entire process. It provides the fuel for the mutation, while the Information and Money Wave contribute the technological means to unleash the necessary creativity.

Two important studies on Sustainability - *Beyond the Limits*[175] and the Global Business Network's *Sustainability*[176] - have shown that *both a value-shift and technological shifts will be needed concurrently.* After evaluating and modeling in detail the relationships between global resources, population, industrial output and pollution, the authors concluded:

"The potential for technological innovations only buys time - there is still a collapse, but it is delayed until the middle of the twenty-first century. Radical behavioral and attitudinal changes are explored too, but it turns out that these alone are not enough either - there is *still* a crash in the mid twenty-first century. It is only when both these kinds of changes are applied together that a crash is avoided."[177]

It is precisely such a combination which is in fact already happening today.

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[175] Meadows, Donella, et al. Beyond the Limits (Post Mills, Vermont: Chelsea Green Publishing, 1992).
[176] Tibbs, Hardin "Sustainability" Deeper News (Global Business Network: January 1999).
[177] Tibbs, Hardin "Sustainability" Deeper News (Global Business Network: January 1999) pg 39. *Italics in original text.*

1. The Value-Shift Wave

"First they ignore you;
Then they ridicule you;
Then they attack you;
Then you win."
Anonymous

The most detailed data set about changes in values over the past twenty years relates to the US. But there are preliminary indications that this process is in fact going on in the entire Western world, and possibly even globally.

Paul Ray has carried out the largest up-to-date surveys of the changes in values over the past twenty years. These surveys covered scientific samples of 100,000 Americans, and were further refined with over 500 focus groups. This included a benchmark study in December 1994, focusing on emerging new values among a representative national sample of the American population.[178] It has provided an invaluable set of hard data about the current state of values in that country. He found that there are in fact three subcultures cohabiting in the US today. Each is a different world of meaning, and has its own worldview. They are respectively the "Traditionalists", the "Modernists" and the "Cultural Creatives".

Here is a thumb-nail sketch of each:

The "**Traditionalists** " are the religious conservatives, Pre-Modern, about 29% of the population and shrinking in relative importance since World War II, with a slight higher density in the Midwest. According to Ray and Anderson "After listening to numerous discussions in focus groups, it slowly became apparent that there is a Traditionalist cognitive style. Most of them avoid complex situations and ideas if they can, and they are emotionally reactive against change and the modern world...Traditionalism is also a desire for simplification, for traditional certainties, and for less sophistication and secularism, for religious monoculture, and for national and ethnic unity....They believe in recovery of small town, religious America, a nostalgic image of the past... The shadow of Traditionalism includes hate groups and the far right fringe."[179]

Until recently they used to share the scene only with the next group: the Modernists.

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[178] see Ray, Paul and Anderson, Sherry Ruth The Cultural Creatives (New York: Harmony Books, 1999). Also, The Integral Culture Survey: A Study of the Emergence of Transformational Value in America (Research Monograph sponsored by the Fetzer Institute and the Institute of Noetic Sciences, 1996).
[179] Ray, Paul and Anderson Sherry Ruth "The Cultural Creatives" (New York: Harmony Books, 1999) chapter I pg 11-12.

The "**Modernists**": the dominant subculture embodying the official "Western Way of Life", dropping from a triumphant majority in the 1950's down today to 47% of the US population (88 million adults). Almost all people in the Western world have been extensively exposed to the "Modernist" world-view. It is the viewpoint that has shaped the Industrial Age. But even as their percentages slowly slack off over time, the Modernist viewpoint remains exclusively the one reflected in mass media.

Historically, Modernism developed during the Renaissance in reaction to the "Traditionalist" societies, as a rejection of the religion-dominated world-view which had been the almost exclusive viewpoint until that time. It therefore considers as "modern" (treated as synonymous with "sophisticated, advanced, urbane and/or inevitable") the values, technologies, interpretations which oppose themselves to the "backward", "under-developed" societies which preceded it.
The Modernists kept intact, however, one of the key premises of the previous religion-dominated world-view: the biblical premise that "Man is to be Master over the rest of creation."

The "**Cultural Creatives**": the only group growing in numbers over the past decades. While they were still statistically undetectable twenty years ago (less than 3%), they represent now 23.6% of the population (44 million adults in the US). This is a historically extraordinary shift in values in less than one generation's time. It is this last subculture that constitutes the Value-Shift Wave referred to by the 2020 Professor. Therefore, more details will be provided about their worldview and current status. It will be shown later that this trend may actually be a global one.

World-view of the Cultural Creative Subculture

Exactly as the Modernist view developed in reaction to what was considered the over-simplifications and excesses of the religion-dominated world-view of the late Middle Ages, the Cultural Creative subculture has emerged in reaction to the blindness and excesses of the Modernist tradition.
At the **personal level**, their main concern is *self-actualization*, i.e. inner growth, as opposed to exterior social prestige. Many have given up on having traditional orthodox religions provide support in their spirituality (17% maintain a traditional orthodox practice against 40% for the Moderns, and 47% for the Traditionalists). They are *curious about the world* (85% are xenophiles). Quality of *personal relationships* is critical for them (76% think so, against 49% for the Moderns and 65% for the Traditionalists). They also tend to be *better informed* than the society at large.

At the **collective level**: One of their main concerns is the deterioration of the *community* and the *environment* (92% want to rebuild community; 87% believe in ecological sustainability). They are assessed by Ray as more "altruistic" as they are willing to make personal sacrifices (84% are altruistic, compared to 51% among the Moderns and 55% for the Traditionalists). They are even willing to take *personal initiatives* in order to achieve a society they believe in (45% want to be "activists", compared to only 29% of the Moderns and 34% for the Traditionalists).. Finally, *women*'s participation in the work place is accepted as a given (69%). They are slightly *more optimistic* about the future (35% as against 24% for Modernists and 26% for the Traditionalists).

"There are also some meaningful *rejections* by the Cultural Creatives: the intolerance of the Religious Right, the thoughtless hedonism of today's commercial media, the go-go greed of the Modernists in the Eighties, and the mindless destruction of much of the planet's ecology by big business."

If you would like to find out to what extent you are a Cultural Creative, please complete the one page self-test of Appendix C.

What is surprising?

The size of the numbers of Cultural Creatives which have appeared out of the woodwork in less than one generation may be surprising to many. It did certainly surprise me. Even people who are part of this subculture consider themselves to be isolated exceptions.

Two reasons converge to create that impression of isolation.

- there is no organization that identifies them;
- there is no media mirror.

No organization

One of the main reasons of its relative invisibility is that this subculture has not spawned a mass political party, a mass religious movement, or even a separately identifiable publication market. Cultural Creatives are by definition eclectics who pick and choose as their interests lead them, from mainstream to marginal publications, national as well as foreign. So there is no place or group where they can actually meet and be counted.

No Mirror

Even more important, the mass media, our mirror in society, is still completely immersed in the Modernist subculture, and practically exclusively reflects that viewpoint. Whenever it refers to the subculture of the Cultural Creatives, it tends to present as typical a caricature of the whole group: the marginal fringe of "New Agers", who represent less than 2% of the population (4 Million adults). So even when this is reflected, the majority of the 44 Million Cultural Creatives do not recognize themselves in this image either.

This invisibility - even to the members themselves - may be the most unusual feature of this new subculture.

When Modernism came into fashion from the Renaissance onward, the "Modernizers" knew very well that they were a movement. Erasmus of Rotterdam or the French Encyclopedists had the media of their respective times focusing on every one of their doings. They were known as a movement by others, and they also knew each other. All of this was true even as they represented only 1% or 2% of the population in their time, compared to 24% that the Cultural Creative subculture represents today.

So, whenever the socio-political reality of these trends will finally sink in, we can expect a much swifter shift than what happened when Modernism was born.

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"Green" and "Integrative" Cultural Creatives

Ray goes on by distinguishing between two types of Cultural Creatives: the "Green" Cultural Creatives and the "Core" ones.

- Green Cultural Creatives (13% or 24 million in the US) are concerned with the environment and social concerns from a secular viewpoint. They tend to be activists in the public arena. They are focusing on solving problems "out there" and are less interested in personal change.
- Core Cultural Creatives (10.6% or 20 million in Ray's survey) have *both* personal evolution and green values. They are seriously engaged in psychology, spiritual life, self-actualization, self-expression. They enjoy mastering new ideas, are socially concerned, are involved in "women's issues" and/or ecological sustainability.

The Cultural Creatives: A Global Shift?

No detailed survey similar to Paul Ray's has covered the entire globe. However, in September 1997 the secretariat of the European Union used Ray's values questionnaire identifying Cultural Creatives in their monthly *Euro-Barometer* survey of all 15 nations (800 interviews per country) and found to their surprise that the percentage of Cultural Creatives are as high in Europe as in the US.

In another study by Duane Elgin, all data available globally further indicate that this shift is in fact a global phenomenon. His conclusion: "considered together, trends do seem to indicate that a global paradigm shift is underway."[180] The global population at large is everywhere *ahead* in the transition compared to both their official leaders and their media. For instance, a majority worldwide gives priority to protecting the environment over economic growth (see Graph A of Figure 10.1), and are willing to pay higher prices to do so (Graph B). There is also a growing majority – stridently contested by fundamentalists everywhere -- that women and men should have equal opportunities, and that having more women involved in political office would improve the general situation (Graph C). What is perhaps most striking is that this trend prevails almost as strongly in developing countries as in developed ones.

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[180] Elgin, Duane and LeDrew, Coleen Global Paradigm Change: Is a Shift Underway? (San Francisco, CA State of the world Forum October 2-6, 1996) pg 20.

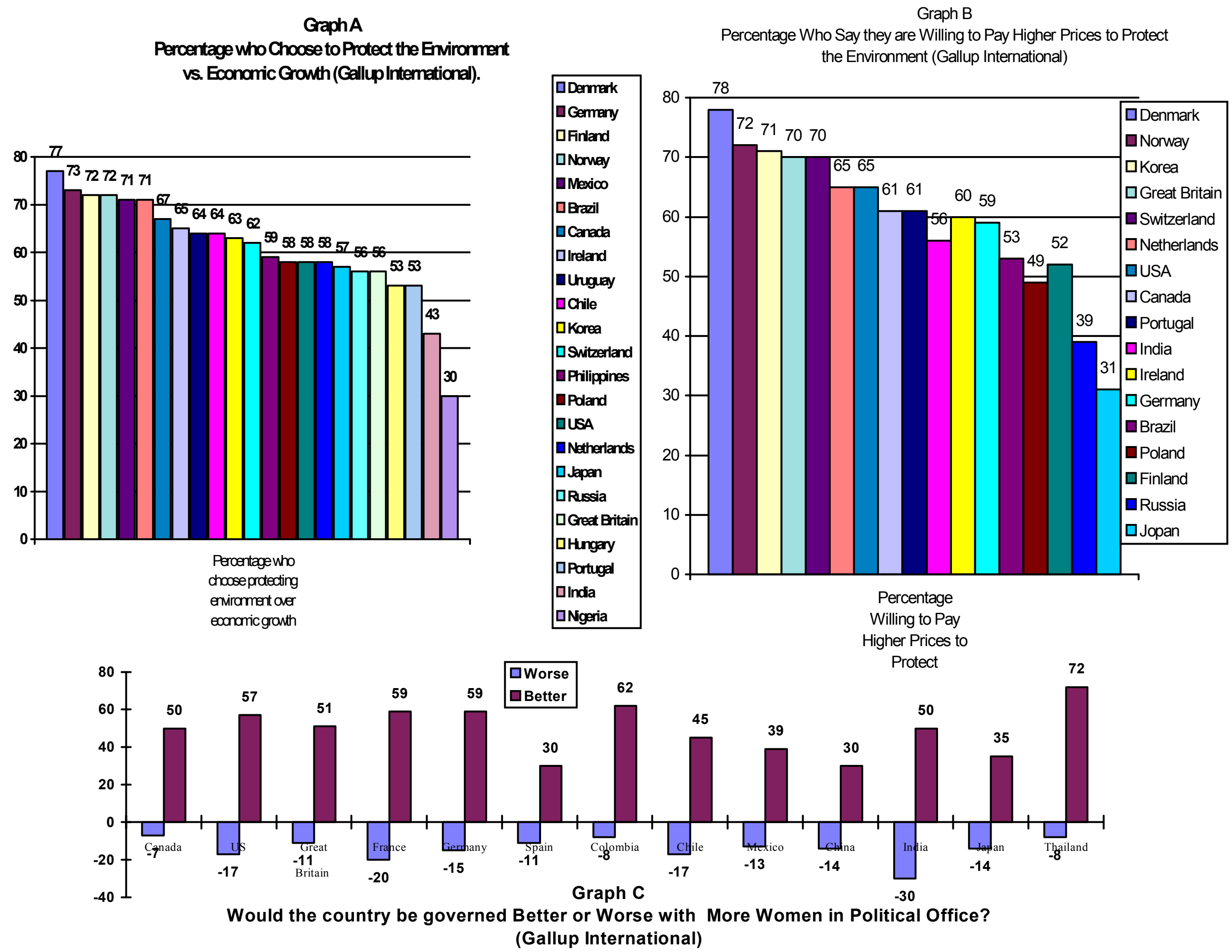

Figure 10.1 Some global indicators on Integrative Value shifts.

Elgin reports also another interesting and under-reported indicator: a shift toward holistic medicine, away from the Modernist conventional medicine. In a 1993 study "Unconventional medicine in the United States" published in the *New England Journal of Medicine*[181] Dr. Eisenberg concluded that unconventional therapy in the U.S. is far higher than previously reported. An estimated one in three persons in the U.S. adult population used unconventional therapy in the year 1990. There were actually *more* visits to U.S. providers of unconventional therapy than visits to all primary care physicians (425 million visits to 388 million visits). Dr. Eisenberg found that $13.7 billion were spent on alternative medicine in 1990. Another study published in the Journal of the American Medical Association (JAMA) in 1998 found that the trend further accelerated since that time, doubling the out-of-pocket expenses on alternative medicine to between $27 and $34 billion per year. Responding to this shift in consumer demand, now 64% of US medical schools offer courses in what used to be described as alternative medicine. Most significant, these medical practices are now becoming acknowledged as *complementary* to the conventional Western medicine.

In Europe, the trend for physicians to include complementary medicine is "overwhelming" according to a *Time* magazine article: "Out of 88,000 practicing acupuncturists in Europe, 62,000 are medical doctors."[182] In Britain, 42% of all physicians routinely make referrals to homeopaths In France, one third of all family physicians prescribe homeopathic remedies, as do 20% of all German physicians. In most European pharmacies, there is now at least as much shelf-space dedicated to herbal medicines than to pharmaceutical drugs. In Asia, scientific and public health interest in acupuncture had already started in the 1950's. More recently other traditional approaches such as the Ayur-Vedic medicine are growing in popularity, again as *complement* to Western Modernist techniques.

In short, each one of these trends separately is often dismissed as a "quirk" or an insignificant "fashion" by Modernist opinion leaders. However, when considered together, the pattern reveals a vast paradigm shift towards a re-honoring of Yin values in all aspects of society. It affects all domains. The pattern includes as disparate phenomena as the growing concerns about the environment, holistic health practices; chaos theory in physics, the replacement of hierarchical structures with networks (such as Internet and virtual organizations); the bridging the Cartesian split between matter and spirit, and the women's emancipation movement.

These shifts can be observed in men and women alike. But again, the most striking of all is that in each of these domains the pattern is repeated, while the meaning of the whole is missed. Thereby the significance, the speed and the scale of this mutation is often missed.

The pattern of the reaction of the dominant Yang paradigm to these Yin innovations is also similar in the different domains. Initially the Yin innovations are ignored. Then they are ridiculed and

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[181] Eisenberg, David M.D. et al. "Unconventional Medicine in the United States" *The New England Journal of Medicine* 328: 246-252 (January 28. 1993)

[182] Langone, John "Alternative therapies challenging the mainstream" *Time* Special Issue Fall 1996 pg 40.

dismissed as "quakery" or marginal superstitions. As they grow in importance and in popular acceptance, systematic opposition manifests, sometimes extending to more or less violent repressions. However, once a critical mass is achieved, a switch occurs: the complementary nature of the new practices is suddenly acknowledged. Finally, the new practices become integrated into a new synthesis.

Not all domains are at the same level of maturity in this process. In several fields of physics the process is already fairly mature, for instance, quantum physics gets increasingly integrated into new levels of synthesis. As mentioned above, medicine has recently reached the stage of the acceptance of the label of "complementarity". In contrast, in several fields of biology the phase of systematic opposition is still prevailing[183]. In money systems, the majority viewpoint is still in the early phases, the attitudes of ignorance and dismissal.

2. The Information Wave

This is the one wave which does not require to look below the radar beams: all mainstream media channels are saturated with news about it. No further explanations about it are therefore necessary, beyond what was already discussed earlier(Chapter 3). Suffice it to remember that the "cybersphere" was defined as the ideal space where the Money Wave will be able to fully develop.

[183] As demonstrated for instance by the on-going reaction against Rupert Sheldrake's thesis on morphogenetic fields.

3. The Money Wave

This entire book is about this third wave. This "Money Wave" has been chronicled here as the birth of Yin currency systems which complement the official extreme Yang national currency system. Our money system was shown to be an extreme Yang construct and the monopoly of such currency has locked our societies into an extreme Yang value system. What is proposed here in Taoist medical terminology is "to calm the Yang and activate the Yin". Pragmatically, the Global Reference Currency is a device that would "calm the Yang", and the activation of local complementary currencies a means to "activate the Yin".

The on-going money innovations are more compatible with cooperative, feminine-type, interactions. Far from being anecdotal curiosities, these new money systems turn out to be an integral part of the broad societal Value-Shift Wave described above. Seen from this perspective, these currency innovations fit in the same pattern as the growing concerns about the environment, holistic health practices; chaos theory in physics, the replacement of hierarchical structures with networks (such as Internet and virtual organizations); the bridging the Cartesian split between matter and spirit, and the women's emancipation movement.

I claim that **if we make available to people *stable* currencies in *sufficiency,* they will move toward Sustainable Abundance** as predictably as water flows down the hills. From an economic viewpoint, this complementary money is based on the recognition of social wealth. (sidebar).

Currency stability and availability is certainly a precondition for Sustainable Abundance.

Without monetary *stability* no society can

Complementary Currencies and Wealth Creation
A Note for Economists

When real-estate was the main form of wealth, banks would issue money almost exclusively on the basis of collateral of land or buildings. Over the past 50 years, new forms of wealth have gradually been recognized and then used as a source of collateral. For instance, one can now borrow money to get a university education, and the increased level of income that the graduate will get in the future is in fact used as collateral for that loan. Note that even from a traditional economic viewpoint **additional financial wealth is created** in this process. The money issued on the basis of that future collateral enables exchanges to occur (i.e. economic activities) and investments to be made (i.e. an education) than would otherwise not occur. Imagine the shrinking of today's wealth base if no intellectual property was recognized, if for instance we would return to the idea that money can be created only through loans to people who own already a house.

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What complementary currencies make possible is a similar additional wealth creation process: the recognition of another form of capital (social capital) is the implicit basis of mutual credit systems. The money is created by people who recognize each other's social capital, the "backing" of mutual credit systems. This enables in turn exchanges to occur that otherwise would not happen, which means again that **wealth is created, this time both financial wealth and social wealth.** Furthermore, well-designed complementary currencies make it possible to engage in this process without creating inflationary pressures on the national currency itself.

***

Economic development can be defined as the capacity to transform resources into capital. In this sense, complementary currencies could become an important form of development.

flourish. Historically, the biggest societal crises - from the fall of Rome to the rise of fascism - are linked to a monetary meltdown -- some claim they were even *caused* by them..

Furthermore, money *scarcity* has been - and still is - *the* main cause for blocking creative solutions to our society's problems. Just think about your own or your community's ideas and projects that have not been realized because of lack of money. I believe that everybody has a gift to contribute to this world, and that monetary sufficiency could unlock such a flow of human ingenuity that the world would shift into a currently unthinkable state of Sustainable Abundance. Jean Shinoda Bolen's comment comes to mind

> "*Before you can do something that you've never done before,*
> *you have to be able to imagine it is possible.*"[184]

How the "Money Wave" could pragmatically play itself out in a multiple level currency system will be described in the next section.

A Monetary System for Sustainable Abundance

This section will deal with the details of the monetary system that would best support Sustainable Abundance. To traditional monetary thinking, one currency per country has always appeared adequate. Therefore, a multi-level system would be criticized for its undue complexity and inefficiency. This criticism will be answered first, followed by a portrayal of how the different levels of currencies could fit together in 2020.

[184] Interview about The Tao of Psychology in a New Dimensions radio interview.

Why a Multi-level Currency System?

The criticism of "undue complexity" is valid only if habit makes us overlook the inefficiencies and complexities of the money system of 1999. This system involves some 170 different national currencies, disorganized in 8 different types of monetary systems according to the IMF's own reports.[187] In any case, the record of the post-Bretton Woods monetary *modus vivendi* is clearly unsatisfactory.

"During the nearly three decades since the demise of the Bretton Woods arrangements, the annual rate of economic growth in developed countries has fallen by a third, and the incidents of international financial crises has increased sharply -- to the point where even countries that follow sound

> ***Yap Islanders in Fort Knox***
>
> Milton Friedman noticed an intriguing parallelism between the "primitive" currency system of the Yap Islanders and our contemporary one.
>
> In 1903 an American anthropologist named William Henry Furness III was so fascinated by the money system of the Uap or Yap island - one of the Caroline Islands in Micronesia and at the time a small German colony of about five thousand people - that he entitled his book "*The Island of Stone Money"* (1910).
>
> "Their medium of exchange they call *fei,* and it consists of large, solid, thick, stone wheels, having at the center a hole varying in size with the diameter of the stone, wherein a pole may be inserted sufficiently large and strong to bear the weight and facilitate transportation. These stone "coins" were made from limestone found on an island some four hundred miles distant. They were originally brought to Yap by some venture-some native navigators, in canoes and on rafts... After concluding a bargain which involves the price of a *fei* too large to be conveniently moved, the new owner is quite content to accept the bare acknowledgment of ownership and without so much as a mark to indicate the exchange, the coin remains undisturbed on the former owner's premises.
>
> When the German Government assumed the ownership of the Caroline Islands in 1898, many of the paths were in bad condition, and the indigenous people were told to repair them. Some refused, and it was decided to impose a fine on the disobedient districts. The fine was exacted by sending a man who marked some of the most valuable *fei* with a cross in black paint to show that the stones were claimed by the government. This worked like a charm; the people, thus dolefully impoverished, turned to and repaired the highways to good effect. Then the government dispatched its agents and erased the crosses. Presto! The fine was paid, the happy islanders resumed possession of their capital stock, and rolled in wealth."[185]
>
> In 1932-33 and again in 1971, the Banque de France (the French Central Bank) asked the Federal Reserve to exchange some of its excess dollars into gold. This would mean in practice to simply replace some of the "Federal Reserve" labels at Fort Knox with "Banque de France" labels. This was described in US financial newspapers as "loss of gold," the markets considered the dollar as weaker, the French Franc as stronger.
>
> Milton Friedman asks: "Is there really a difference between the Federal Reserve Bank's believing that it was in a weaker position because of some marks on drawers in its basement and the Yap islanders belief that they were poorer because of some marks on their stone money? The Yap islanders regarded as a concrete manifestation of their wealth stones quarried and shaped on a distant island and brought to their own. For a century and more, the civilized world regarded as a concrete manifestation of wealth a metal dug from deep in the ground, refined at great labor, transported great distances, and buried again in elaborate vaults deep in the ground. Is the one practice really more rational than the other?"[186]

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185 Furness , William Henry III The Island of Stone Money (1910) pp 93, 96-100

186 Friedman, Milton Mooney Mischief: Episodes in Monetary History (New York, A Harvet book: Harcourt Brace and Co, 19922) pg 6-7

187 International Monetary Fund (IMF): International Financial Statistics vol 47/7 (Washington, DC July 1994) p. 8.

economic policies are often stricken along with the profligate. 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."[188]

It is also likely that seen from a longer term historical perspective some of the features of our prevailing money system will be seen as strange anomalies. (See sidebar on Yap Islanders in Fort Knox).

Organizational Requirements

The fundamental monetary shift that is needed is an organizational one. The proposal here is that ***in addition*** **to the command-and-control hierarchical (Yang) national money systems, more flexible, open, adaptive systems (Yin) should be allowed to develop during the post-Industrial transition period we have now entered**. The reasons for this is best understood by comparing the characteristics of a mature industrial society with a post-Industrial one, as is done in the next table.

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Old Environment (Mature Industrial Age)	New Environment (Post-Industrial Age)
Predictability and Control Assumed	Fundamental Structural Changes Assumed
Intelligence and Information Centralized	Intelligence and Information Distributed
Expert driven solutions	Many agents experimenting with new patterns
Command and Control Structures	Complex Adaptive Structures

As long as the assumption was valid that we are living in an environment which is both predictable and controllable (both key Yang assumptions), it made sense to centralize information and leave the decisions to "experts." The most coherent management structure in such circumstances is the traditional command and control hierarchical structure, which is now almost ubiquitous. Such pyramidal organizations were initially invented by the Roman military and even more ancient religious hierarchies thousands of years ago. They are now ubiquitous, they are the norm in practically all government organizations, corporations, labor-unions, political parties, universities

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

and other schools, medical establishments and non-profit organizations. It has become so habitual that we may not even think that other ways of organizing ourselves are possible and could be more effective under our current circumstances.

However, as breakdowns and crises spread to many domains (e.g.: global monetary system, government, education, environment, jobs, etc.)-- if the transition toward an information economy becomes indeed an "Age of Uncertainty"[189] -- then the time is ripe to reconsider the old organizational assumptions. Under such circumstances, holding on to the old expert-driven, hierarchical command and control structures will predictably kill the very innovations that the circumstances require.

Tony Judge, who Alvin Toffler described as "one of our most brilliant organization theorist", claims that the organizations of the future will take the form of "networks not coordinated by anybody; the participating bodies co-ordinate themselves."

The first large scale contemporary implementation of such principles was accomplished by Dee Hock, when he founded the VISA credit card system in the 1970s.[190] VISA has grown spectacularly to become the largest business organization in the world: it has a sales volume of $1.3 trillion per year and serves 600 million clients. And yet, can you tell where its headquarters are? Or on which stockmarket you can buy its shares? The surprising answer is that it has *no* headquarters or stock available anywhere. And yet it works efficiently, and has grown to a staff of 3,000 in 21 offices on four continents. It is structured as an alliance among over 20,000 financial institutions in more than 200 countries and territories. It is a structure where all relevant decision-making flows through the entire system rather than only from the top. Dee Hock calls it the first business "chaord" (a term he coined to describe an organization that is both "chaotic" and "orderly"). "Show me the Chairman of the Board of the forest, show me the chief financial fish in the pond, show me (tapping his head) the Chief Executive neuron of the brain."[191]

It is indeed true that all this is not applicable only to monetary or business matters. The work pioneered by the Santa Fe Institute on complex adaptive systems has verified these principles in *all systems* (physical, biological, social, economic, etc.) which are reaching a certain level of

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[189] Title of a book by John Kenneth Galbraith about the new society we have moved into.
[190] Waldrop, Mitchell "The trillion-Dollar vision of Dee Hock" Fast Company (October, November 1996).
[191] Durrance, Bonnie "The Evolutionary Vision of Dee Hock: from Chaos to Chaords" Training and Development (April 1997) pg 26.

complexity. Complexity theory predicts that contrary to Newtonian logic, complexity does not grow linearly, but occurs in non-linear jumps in episodic stages of "surfing at the edge of chaos." These "near-chaos" periods are when systems regenerate and restructure at the next level of complexity, according to Nobel laureate Illya Prigogine.

I believe we have now started to "surf at the edge of chaos", that the current crisis of the dominant institutions of Modern society is the sign that humanity has started to reorganize at the next level of complexity (see sidebar on the Butterfly Metaphor). This is why we are now in the transition period, the period "in between stories" of the Time Compacting Machine of Chapter 1.

> ***The Butterfly Metaphor***
> The biology of the metamorphosis of a caterpillar into a butterfly has been used by Norie Huddle as a metaphor for our times.[192] When the caterpillar starts its metamorphosis, special cells -- called imaginal cells -- literally dissolve from within the body of the caterpillar into an amorphous-looking liquid. Then these imaginal cells start inter-connecting with each other, building new networks; and they end up restructuring the whole into the miracle of the butterfly.
> ***
> Modern civilization has now entered the dissolution phase, and the imaginal cells have started interconnecting using the cybersphere to do so outside of the traditional communication channels. Sustainable Abundance is the butterfly, now available as described in the "Four Seasons of 2020" (chapter 1).

The major danger in the monetary field is that some of the spontaneously emerging new monetary levels will be blocked off (historically the most likely one is the local one, because it is the easiest to stamp out), while others will be left to thrive (e.g. private corporate currencies, because they are beyond the control capacity of individual central banks). Such an outcome would perpetuate the imbalance toward Yang currencies and values in our economic system, just when a Yin influx is needed (Figure 9.9 showing the map of the different Yin and Yang currency systems illustrated this point.) Traditional command and control structures may not be able to avoid the chaos in the existing old order, but one should not underestimate their power to choke off embryonic attempts at a new order.

Beyond 2020?

In the long run -- some time after 2020 -- I expect that new economic and governance structures will emerge at the next order of complexity, and that a new era of predictable patterns will return Other monetary systems than the ones described in this book will most likely be necessary at that point. Maybe at some point in the future we will not need money at all. If we have to believe Jean Luc Godard of Star Trek fame, "money does not exist in the twenty-fourth century." Meanwhile, I think

[192] Huddle, Norie Butterfly: A tiny tale of great transformation (New York: Huddle Books, 1990).

we will need transitional money systems, which can be used as crutches to re-educate atrophied collective behavior patterns.

My purpose in this book has been to focus only on these transitional money systems appropriate for the phase we have already entered. And the main point bears repeating: during the current transition period a lot of violent disruptions and pain can be avoided by encouraging social experimentation, by letting embryonic forms a chance to thrive, by allowing them to reproduce in new patterns which have already proven effective at dealing with structural change in other parts of the world. This is the way nature has been doing it successfully for five billion years. Can we afford not to learn from it?

What follows next is a description of the development of a four-level monetary system. One already exists – the conventional bank-debt national currency system. The development of the three new money systems is synthesized in three timetables, revealing that the emergence of these new systems is in fact an organic development of trends which have been prevailing for decades, each pushed by its own logic. In parallel to these three new levels, it is assumed that the conventional national currency systems will be able to operate roughly as they do today. The only significant difference is that they are not anymore perceived as the only game in town.

The Monetary System of 2020: a Four-Level Gear Box

Let us imagine that we are living in 2020. Almost all corporations and many individuals are dealing routinely in currencies at different levels. For a small transaction fee, it has become very simple to exchange any of these currencies for most others somewhere on the Net. Just like with today's frequent flyer miles, mixed payments are common (you can buy a ticket in national currency, and pay for an upgrade in frequent flyer miles).

The four levels operational in 2020 would be the following:

- A Global Reference Currency
- Three main Multinational Currencies
- Some National Currencies

- Local Complementary Currencies

1. A Global Reference Currency

Several corporate scrips are competing on the Net, issued by the likes of Amex, Microsoft, and a alliance of European and Asian corporations**.** Some have created special subsidiaries--with strong and liquid balance sheets--to issue these currencies and provide them with stronger credibility. One such currency has taken the form of a Global Reference Currency as described in Chapter 8, and arose from a systematization of corporate barter.

Barter - the exchange of goods or services without the use of any currency - has been around since the dawn of mankind.

Because of this old history, barter has often been seen as “inferior” or “primitive” form of exchange, sometimes associated with the underground economy. All this has completely shifted over the past decades, to the point that BarterNews, the leading industry publication, estimates total barter at $650 billion per year. The bulk of this $650 billion is corporate barter, both domestic and international (“countertrade” in the technical parlance). The barter industry has now two major trade organizations, the International Reciprocal Trade Association (IRTA, website www.irta.com) and the Corporate Barter Council (CBC).

What follows is the timetable of the growth of both barter and the cybereconomy, and how their convergence created a corporate-initiated Global Reference Currency (all data until 1999 inclusive is actual, and is projected thereafter).

. ***Emergence of a Global Corporate Scrip (1960-2020)***

1960s: Development of large-scale professional barter by Western corporations with the Comecon ("Communist Block") countries

1970s: Extension of barter to Less Developed Countries whenever "hard currencies" are in scarce supply

1974: In the US, 100 small barter exchanges facilitate trade valued at $45 million, among 17,000 corporations

1980s: Generalization of barter in international exchanges, as consequence of the Latin American debt crisis.

1982: The US Congress recognizes barter as a legitimate domestic commercial process, and sets up reporting requirements. All barter income is treated as normal income by the IRS.

1990s' Expansion of barter *within* all developed countries. In parallel, Internet commerce starts taking off.1997: Alan Greenspan, Chairman of the Federal Reserve Board gives implicit OK to corporate currency initiatives: "If we wish to foster financial innovation, we must be careful not to impose rules that inhibit it"[193] The cybereconomy is estimated at $35.6 billion per year.
1998 In the US no less than 400,000 businesses are members of 686 barter exchanges, totaling a volume of $8.5 Billion in domestic exchanges.: Annual growth rate is 15%, three times faster than commercial exchanges facilitated by dollars..
1999: Internet traffic doubles every 100 days.
2000: The cybereconomy reaches $200 billion per year, about half of which is between corporations. Barter business starts moving onto the Net, and begins to merge with the cybereconomy..

2001: Standardization of barter contracts by some corporations.

2002: Internet commerce among businesses alone reaches $300 billion.[194]

2003: Several private corporate scrips compete to establish their brands in cyberspace.

2005: In the US 1.6 million businesses engage in barter transactions totaling $31 Billion[195].

2006: A "chaordic "alliance among international corporations uses a standardized Global Reference Currency called the *Terra* which includes a demurrage feature.

2007: 20% of all US retail trade has been displaced toward the Net, other cyber-active countries are following the same trend (similar to but much faster than the postwar spread of US-style supermarkets and mall distribution systems around the world).

2015: Global Reference Currency becomes an optional legal accounting standard for multinational corporations.

2020: The cybereconomy has become the largest economy in the world. Private business scrip (including *Terra*) is involved in 50% of all international trade.

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[193] Greenspan, Alan :Fostering Financial Innovation: The role of government" in The Future of Money in the Information Age (Washington: Cato Institute, 1997) pg 48

[194] Source: Forrester Research based on interviews with numerous business executives.

[195] Estimates by the International Reciprocal Trade Association (IRTA).

2. Three Multinational Currencies

After the Euro replaced the national currencies in eleven European countries in 1999, the British and other European hold-outs joined in the system a few years later. This build up an irresistible pressure to create an Asian Yuan Currency zone, and finally a NAFTA dollar. It has indeed become obvious that regional economic integration can reach maturity only when a single currency levels the playing field for all economic participants. A single currency is the only way to structurally guarantee a unified information field.

What follows is the history of the creation of the three major multinational currency systems by the year 2020. Note that all these multinational currencies are conventional bank-debt currencies, their only distinction from the previous national currencies is their use over a wider geographical area than one single country.

Emergence of Multinational Integration Currencies (1958-2020)

1958: Treaty of Rome starts the European "Common Market" unification process, creating a free trade zone for six countries (Germany, France, Italy, Belgium the Netherlands and Luxembourg)

1960: Stockholm Convention starts the European Free Trade Association (EFTA), spearheaded by the United Kingdom and including Austria, Denmark, Norway, Portugal, Sweden and Switzerland.

1967: Bangkok Declaration regroups five ASEAN countries (Indonesia, Malaysia, Philippines, Singapore and Thailand).

1973: The UK and several other EFTA countries join the initial six Treaty of Rome countries.

1978: Announcement by German Chancellor Schmidt and President Giscard d'Estaing of France of the need for a "zone of monetary stability" in Europe

1979: Creation of the European Currency Unit (ECU) as a monetary convergence and integration tool, and as an intra-European accounting and payment unit. Twelve countries are involved.

1984 Brunei joins ASEAN

1992 "Maastricht Treaty" commits Europe to a single currency by the turn of the century in what has now become the "European Union" (EU).

1995: Vietnam joins ASEAN

1996: Formation of the North American Free Trade Association (NAFTA) a free trade zone regrouping the US, Canada and Mexico

1997: Laos and Myanmar join ASEAN. Japan proposes a $100 billion Asian Monetary

Fund, separate from the IMF; this proposal is blocked by the US and the UK.

1999: The ECU is replaced formally by the "Euro", a single European currency with a core group of eleven countries. Mercosur (Brazil, Argentina, Uruguay and Paraguay) starts NAFTA negotiations.

2001: Chile joins NAFTA. Several additional European countries join the "Euro" zone

2003: ASEAN formally announces the intend to create a single Asean Yuan currency zone. Japan and China become associate members of the Yuan currency project.

2004: Post-Castro Cuba and several other Latin American countries join NAFTA

2005: The last European holdout, Britain, joins the Euro after a hotly debated referendum

2007: Taiwan peaceful joins China under a "one country, one currency, several systems" principle.

2010: Single Yuan currency zone operational. Several additional Asian countries join the initial core group.

2012: Formation of the NAFTA dollar zone

2020: Tripartite Treaty of economic cooperation between the three major free trade zones.(European Union, ASEAN and NAFTA).

3. Some National Currencies

In many countries, national currencies will still be used for a long time. They continue to play an important role within any country that has not joined a formal multinational currency integration system. Most exchanges continue to involve national currencies at least in partial payments, if nor no other reason that they remain the official "legal tender" with which national taxes are being paid. The main difference from the past is that national currencies do not maintain their totally monopolistic role as medium of exchange. Many payments are mixed -- involving both national currencies, corporate scrips or Internet currencies in a single transaction.

The only places where the national currencies have kept intact their old monopoly are a few underdeveloped countries, such as Albania and a few other backward dictatorships, where the priority given to political control over the Net has kept the cybereconomy completely out.

4. Local Complementary Currencies

This last level, the local one, has been the topic of Chapter 5 and 6. In reaction to economic globalization and running parallel to it, self-organization at the local level has become very popular. The Information Revolution also meant a systematic reduction of production and service related "jobs." As jobs grew scarcer, communities created their own currencies to facilitate local exchanges among their members.[196] Once critical mass was attained, complementary currency clearinghouses on the Net made it possible for members of these communities to participate in the cybereconomy as well.

The following table projects its future growth beyond 1999.

[196] Chapters 5 and 6 will provide many examples of this process already operational at the end of the 20th century.

Emergence of Complementary currencies (1934-2020)

1934: Creation of the oldest currently still surviving complementary currency system: "WIR" in Switzerland (By 1997 its membership reaches 80,000 and annual trade volume $2 billion demonstrating the potential scale of mature complementary currency systems.)

1982: Implementation of first postwar LETS (Local Exchange Trading System) in high unemployment areas in Canada.

1987: Creation of Time Dollars by Edgar Cahn in Florida, Chicago and Washington D.C.

1990: IRS gives tax free status to Time Dollar exchanges.

1992: Creation of Ithaca HOURS, first postwar "fiat" complementary currency. Total number of local currency systems of all types reaches 200 worldwide.

1990s: Age of corporate downsizing begins, rapid expansion of number of complementary currency systems particularly in New Zealand, Australia, UK, Germany, France. The New Zealand Central Bank discovers that complementary currencies *help* in reducing inflation pressures on the national currency

1993: Missouri first US State to use Time Dollars to fund its welfare system.

1995: Complementary currency systems top 1,000 worldwide.

1996: The US Federal welfare programs are decentralized to the State level.

1997: Thirty different US States start over 200 Time Dollar systems to foster "self-help welfare," Also, by private initiative, another 40 different Ithaca HOUR systems operational in the US.

1998: Minneapolis, Minnesota, experiments with the first dual currency smartcard payment system (dollar and a local complementary currency)

1999: Experimentation with a decentralized smartcard complementary currency system in Vancouver, Canada. More than 2,000 systems operational in a dozen developed countries.

2000: Complementary Currency Clearing House (CCCH) operational on the Net.

2003: European welfare reform, officially incorporating complementary currencies as a community development tool.

2008: Complementary currency systems top 10,000 for the first time worldwide.

2020: Complementary currencies represent 20% of total domestic trade in the most advanced countries.

There are of course countries around the world which have forcefully maintained the monopoly of national currencies, and turned their back to the new possibilities offered by the Money Wave and the cybereconomy. The results of this are similar to what happened to countries - like China - that chose to block the development of railroads during the early Industrial Revolution. They ended up delaying the Industrial Revolution by almost a century, but at great cost to their population and their influence in the world. They became the "Less Developed Countries" (LDCs) of the 20th century. Today, people are similarly choosing who will become the "Information Deprived Countries" (IDCs) of the 21st century.

Knowing the monetary system which would best support Sustainable Abundance, we can now fully understand what was underlying the vignettes of "The Four Seasons of 2020" (Chapter 1), as well as the four scenarios (Chapter 4). Both will now be briefly revisited.

The Four Seasons of 2020 Revisited

This book started with a description of a Time Compacting Machine and four vignettes which captured the possibilities offered by Sustainable Abundance in people's lives by the year 2020. They were synthesized as in Figure 10.2.

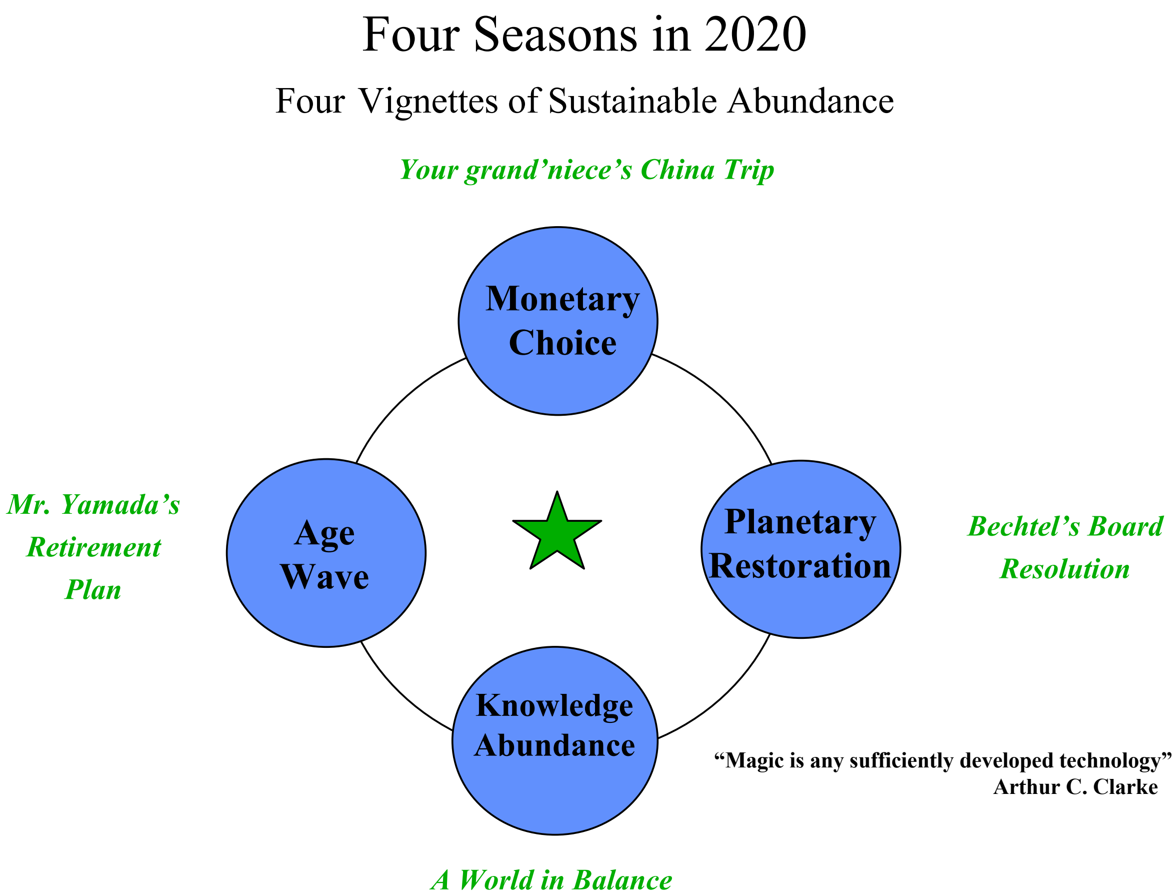

Figure 10.2 The Four Vignettes of Sustainable Abundance in 2020

At that time, I acknowledged that some of these stories may have appeared as "magic", unreal fairy tales for adults. By now, the monetary technologies which underlie each one of these "magic" stories have been demystified.

Both "Mr. Yamada's Retirement Plan" and "A World in Balance" are the result of the sufficient availability of stable, Yin currencies.

The "Bechtel Board Resolution" is the result of the use of a demurrage-charged Global Reference Currency as standard accounting and planning tool by major global corporations..

Finally, "Your Grandniece's China Trip" describes a world in which the Integral Economy, involving both Yin and Yang type currencies in appropriate balance has become taken for granted.

An Integral Economy would see these various currencies operate in complementary ways with each other. It would improve the quality of life even for those who choose to keep strictly to traditional industrial age "jobs". It would encourage the attitudes that Robert D. Haas, the CEO of Levi Strauss, forecasts: "The most visible differences between the corporation of the future and its present-day counterpart will not be the products they make or the equipment they use, but who will be working, why they will be working, and what work will mean to them."

Complementary Currencies and Wealth Creation
A Note for Economists

When real-estate was the main form of wealth, banks would issue money almost exclusively on the basis of collateral of land or buildings. Over the past 50 years, new forms of wealth have gradually been recognized and then used as a source of collateral. For instance, one can now borrow money to get a university education, and the increased level of income that the graduate will get in the future is in fact used as collateral for that loan. Note that even from a traditional economic viewpoint **additional financial wealth is created** in this process. The money issued on the basis of that future collateral enables exchanges to occur (i.e. economic activities) and investments to be made (i.e. an education) than would otherwise not occur. Similarly the fastest growth component in the stock market has been "knowledge capital" (e.g. Microsoft). Imagine the shrinking of today's wealth base if no intellectual property was recognized, if for instance we would return to the idea that money can be created only through loans to people who own real -estate.

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What complementary currencies make possible is a similar additional wealth creation process: the recognition of another form of capital (social capital) is the implicit basis of mutual credit systems. The money is created by people who recognize each other's social capital, the "backing" of mutual credit systems. This enables in turn exchanges to occur that otherwise would not happen, which means again that **wealth is created, this time both financial wealth and social wealth.** Furthermore, well-designed complementary currencies make it possible to engage in this process without creating inflationary pressures on the national currency itself. Economic development can be defined as the capacity to transform resources into capital. In this sense, complementary currencies could contribute an important additional mechanism for development.

The image that comes to mind is that during the Industrial Age we have become accustomed to a monetary toolbox with one single to tool: a screwdriver. Now, screwdrivers are great, even the only way to go, if and only if you are dealing with screws. However, for those of us who want to paint, the screwdriver becomes a rather clumsy tool. It may be possible to paint with a screwdriver, but the results are not going to be too convincing. When we see, for example, non-profit organizations -- each trying to bring good things to society -- tearing each other apart to get scarce competitive money, they are really trying to paint with a screwdriver. The same image applies when we try to develop social capital such as taking care of children and elderly exclusively with Yang type currency.

The Four Scenarios Revisited

"The business of the future is to be dangerous"
Alfred Whitehead

In Chapter 4, four different scenarios were summarized in the following diagram.

Corporate Millennium	***Sustainable Abundance***
Hell on Earth	***Careful Communities***

Figure 10.3 The Four Scenarios of Chapter 4

We can now better understand how Sustainable Abundance relates to the other three scenarios. The Corporate Millennium is the result of what the Taoists would call an "excess Yang" deviation from Sustainable Abundance, where Yang driven businesses and currencies take over all other aspects of society as the old order dissolves. It would tend to occur if in Sustainable Abundance the benefits of information and money waves were monopolized by the corporate sector. This is most likely to happen if monetary and political authorities were to suppress the small-scale local currencies, while remaining unable or unwilling to tackle the corporate-issued currencies.
In contrast, Careful Communities is an "excess Yin" deviation where concerns about community cohesion have taken over when a monetary meltdown triggers widespread socioeconomic disarray.
Finally, Hell on Earth occurs when no faction in society fills in the power vacuum left after a monetary crash.

Alvin Toffler claimed "What appears to be emerging is neither a corporate dominated future nor a global government, but a far more complex system... We are moving toward a world system composed of units densely interrelated like the neurons in a brain rather than organized like the departments of a bureaucracy."
If Toffler is right, and if a monetary system compatible with this view is allowed to manifest, then Sustainable Abundance is our future.

Conclusion

We are not dealing with a traditional economic, financial or monetary crisis. We are living through a major mutation of the socio-economic fabric of our global civilization. This mutation can lead to several outcomes, and it is not pre-ordained which one we will end up experiencing. The quicker we realize that the traditional solutions will not be appropriate for our current situation, the faster we may create the emotional, political and intellectual framework where appropriate solutions may emerge.

A post-Industrial mutation is upon us in any case, and I believe that the best way we will deal with it is by consciously uncentralizing and empowering human creativity at all levels. The three waves to Sustainable Abundance would enable this to happen.

As Sir Eric Tilgner put it: *"Destiny is not a matter of chance. It is a matter of choice."*

Just remember that *we* are doing the choosing for your children, for your children's children, and for a significant part of the biosphere as well.

Epilogue and Prelude

"The great challenge of the Modern Age is not to remake our world,
but to remake ourselves.
Be the change you wish to see for the world."
Mahatma Gandhi

"A problem cannot be solved
with the same type of thinking that created it"
Albert Einstein

"We don't see things as they are.
We see them as we are"
Anaïs Nin

Humanity and Planet Earth are at a cross-road.
The next twenty years will either see an irretrievable loss of biodiversity and a deterioration of the quality of life for vast numbers of people; or we will have moved up to the next evolutionary step. Given the remarkable motivation power of money, by changing the money system we can gently but surely tilt the direction towards which we are moving without needing to either re-educate or regulate the behavior of billions of people. This book sketched a road map of how this can be achieved. It dealt with money in the world ***outside*** of us, describing money systems and their social effects.

However, there is still one other dimension to the money issue. To discover it, we need to journey into the imaginal world of money, the one residing ***inside*** our own heads. This other road map will provide a grasp of the *collective emotions* that operate around money. It integrates into our money view the inputs from our "right brain", the symbols and myths active in our unconscious, where the unrelenting power of attraction of money finds its ultimate source.

It is unusual to connect these “outside” and “inside” world-views on any topic. To my knowledge, it is the first time that this is attempted for the topic of money. But closing the circle between the outside world and our inner worlds is nevertheless the richest route to our goal. This is purpose of the book entitled *The Soul of Money: Beyond Greed and Scarcity* available from the same publisher.

This book delves into our collective psychology by addressing questions such as:

- What explains in our societies the social taboo around money issues? How are the three main taboos of our society of sex, death and money related to each other? Why is the money you have and where it comes from, an even bigger taboo than your sex life?
- Where our contemporary obsession with money originate?
- Why did the conventional bank-debt national currencies become so exclusively dominant during the Industrial Age, spreading worldwide, independent of cultural or political context?
- Why are specific emotions -- greed and fear of scarcity -- built into our money system?
- Why is fundamental change in our money system transpiring now, after centuries of unthinking acceptance of the conventional national currencies?

The on-going parallel mutations alluded to in the Value-Change Wave and the Money Wave (described above in Chapter 9) offers today a historically unprecedented opportunity to *consciously* create Sustainable Abundance. Seizing this opportunity may be our most decisive challenge. To build up the courage to face this challenge, Wayne Dyer’s comment may be relevant:

“No one knows enough to be a pessimist.” [197]

[197] Interview at New Dimension Radio