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THAT LEADS TO ACTION

*THE WEALTH OF NATIONS REVISITED*

# CADMUS

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## **Editorial: Call for a Revolution in Economics**

*The discipline of Economics is at a cross-roads. Either it undertakes a comprehensive reevaluation of its fundamental postulates and a critical reassessment of their utility to solve real world problems or it risks sliding further into irrelevance. **It is time for a renaissance of thinking in Economics.** The position of Economics today is akin to that of Physics during the 19<sup>th</sup> century. It has many significant isolated achievements to its credit, but the picture it presents of the way the world actually functions is fragmented, incomplete and grossly imperfect. **As is our knowledge, so is our power for accomplishment.** Inadequate thought leads to failed policies. The problems plaguing the world economy testify to the inherent insufficiency of prevailing economic theory.*

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*“The starting point is a human-centered theory of value that recognizes human welfare as the central objective and the creativity of human capital as the ultimate resource and source of all others.”*

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*The challenge for economics is compounded in several ways. Unlike the universal laws of Physics, the principles relevant to governing economic systems have changed as the nature of those systems has evolved from the agrarian and commercial economy of Adam Smith’s time to the Industrial economy of the 19<sup>th</sup> century and the knowledge-based service economy that has emerged in recent decades.*

*However valid and useful it may have been in the past, **existing economic theory is blatantly inadequate to address the realities of 21<sup>st</sup> century society,** in which human capital has become the most precious resource, industrialization has exceeded the earth’s carrying capacity, economic value is increasingly tied to risk and uncertainty and utilization of service systems over time, public sector is nearly as large as the private sector in many developed nations, social organization has acquired enormous productive power and complexity, the non-monetarized sector represents an essential contribution to human welfare, transport and communication systems are becoming globally integrated, the transformative power of information systems is radically altering the way products and services are delivered and human needs are met, the revolution of rising expectations has become global, and people everywhere clamor for greater freedom and social equality. **New realities necessitate new thinking** and the starting point is a human-centered theory of value that recognizes human welfare as the central objective and the creativity of human capital as the ultimate resource and source of all others.*

*The challenge of building a true science of Economy is even more daunting than that faced by the physical sciences, because it must encompass and integrate not merely principles of the material plane, but social and psychological principles as well. The growing power and effectiveness of physical science have been achieved by an increasing unification of previously disparate and apparently unconnected phenomena into a comprehensive and cohesive model of the universe. Newton unified motion and rest, heaven and earth. Maxwell unified electricity and magnetism, and optics. Einstein unified acceleration and gravity, space and time. Integration of disparate fields of knowledge has multiplied the effective power of physi-*

“Have we truly exhausted the capacity of human consciousness and creativity to support the further development of global society?”

cal science. So too, the various disciplines of social science represent facets of a single, integral reality called society. **Unless or until the study of economics is integrated with the study of political science, ecology, education, technology, sociology, psychology and culture, social science will not possess the knowledge and effective power to address the problems facing humanity today.**

Economies operate at the interface between individual human beings, national and international markets, political systems, and the earth’s ecosphere. Yet, as the most recent award of the Nobel Prize in Economics illustrates, it is today a highly fragmented field consisting of myriad sub-divisions, in which financial markets are increasingly divorced from the real economy, technological and industrial strategies are divorced from employment generation, income generation is divorced from income distribution, economic growth is divorced from social welfare, and human activity is in conflict with the physical environment in which it occurs. **Today, there is an urgent need to reconnect disparate fields of thought in the social sciences to constitute an integrated science of society.**

A simple paradox makes evident the inability of prevailing economic thought to meet the needs of humanity. We live in a world where unprecedented scientific knowledge, technological capabilities, organizational capacities and underutilized productive infrastructures co-exist side by side with a plethora of unmet human needs for food, housing, clothing, education, medical care, transport, communication and every other major and minor element that contribute to overall human welfare. In spite of tremendous advances in agricultural technology, one in every eight human beings still suffers from severe malnutrition. More than a third of the world’s population still lives in dire poverty. How can economic theory make claims of market efficiency when the overall system is so blatantly inefficient in harnessing the enormous productive potentials of human beings to meet the essential needs of all members of the society? Does it mean there simply are no remedies to poverty and unemployment? **After two centuries of remarkable progress, must the bulk of humanity resign itself to a future of stagnation, mediocrity or decline?** Have we truly exhausted the capacity of human consciousness and creativity to support the further development of global society?

The World Academy of Art and Science and the Club of Rome can lead the way in calling for a comprehensive reassessment and reevaluation of social science theory with the aim of laying the foundations for an integrated science of society and humanity founded on universal values and imbued with the effective power to fulfill our highest aspirations.

#### Editors

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## Money, Debt, People and Planet

**Jakob von Uexkull**, Fellow, World Academy of Art and Science;  
Chair, World Future Council

### Abstract

*The widespread failure to understand money creation plays a key role in the current policy impasse. In a world ruled by money, this failure disempowers and prevents serious consideration of alternatives. The key reasons why we are not moving faster in tackling the global crises are, we are told, because it is too expensive, there is not enough money, it is not (yet) profitable enough to do etc. Within the current global monetary framework, this is largely true. Therefore, any realistic plan to change course before we are overwhelmed by the inter-linked environmental, social and security threats facing us, is to change this framework to ensure that money becomes our servant again. The current debt crisis offers an opportunity to replace discredited debt-based money created by private banks in their interest with government-created debt-free money benefitting all, which can be used to fund a global emergency programme.*

*“We know now that government by organised money is just as dangerous as government by organised mob.”* — President F.D. Roosevelt, 31.10.36

*“The essence of the contemporary monetary system is creation of money, out of nothing, by private banks’ often foolish lending. Why is such privatisation of a public function right and proper; but action by the central bank to meet pressing public need, a road to catastrophe?”*  
— Martin Wolf, ‘Financial Times’, 9.11.10

*“The obvious way to reduce our public and private debts is to stop having all our money created as debt.”*  
— James Robertson, ‘Future Money’

The widespread failure to understand money creation plays a key role in the current policy impasse. In a world ruled by money, this failure disempowers and prevents serious consideration of alternatives.

We have now reached a tipping-point where the ruling monetary belief systems are destroying economic well-being and social peace as well as threatening the very survival of civilisation and even life on earth. We have globalised our economies — but not our responsibilities. The externalities we have dumped on our global

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*“Over the past decades a wealthy minority has used those tools — finessed by economists, politicians and propagandists in their service — to vastly increase their wealth at the expense of our common good and future, claiming that there is no alternative to their “Washington Consensus”.”*

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ecosystems — and on future generations — are now returning to remind us that the much recent “growth” is only debt, fuelled by natural (and social) capital destruction.

We are ruled by cost-benefit-analyses but it is important to remember that these are not neutral but tools in the hands of those who use them. Every economic calculation, every bottom line depends on what has been included or omitted from the top lines of the equation! The decision on what to include and omit is a function of power. Over the past decades a wealthy minority has used those tools — finessed by economists, politicians and propagandists in their service — to vastly increase their wealth at the expense of our common good and future, claiming that there is no alternative to their “Washington Consensus”. But, to quote US author Thomas Friedman, “hidden hand of the market will never work without a hidden fist.”<sup>1</sup>

This fist is US (military and ideological) power. The belief that this power has already shifted to Asia is mistaken. The emerging Asian (and other) economies have joined an international structure of institutions designed primarily in the interests of Wall Street.

On top of this structure stands the US Dollar as the global reserve currency. The huge seigniorage and other advantages this gives the USA have recently been noted, e.g. in China,\* Malaysia and Brazil. While hundreds of millions of Chinese worked very hard for many years to earn the huge dollar reserves now held by their country, the USA just “printed” a similar amount through its Quantitative Easing programme, thus devaluing everyone else’s dollar holdings.

Since the overall economic growth rates began to fall in the West in the 1970s, the richest Americans have increasingly opted out of their societal responsibilities. From 1979-2005 the wealth of the richest 1% increased by 200% while that of the poorest 20% grew by 1%! The number of women living in poverty and extreme poverty in the U.S.A has reached record levels.<sup>†</sup>

This unprecedented bottom-up wealth transfer was made acceptable to the majority by encouraging them to go massively into debt, until the first bubble burst a few years ago. When it became clear that the real economy could no longer achieve the growth rates required to keep the majority from questioning the ruling economic order, debt was encouraged to create the illusion of continued and growing mass prosperity. The huge debt over-hang continues, paralysing and destabilising governments, economies and societies. It is predicted that every Irish family of 4 will owe € 200,000 by 2015.<sup>‡</sup>

And more is to come: The historian Niall Ferguson describes pension and social security entitlements in the USA and many European countries as “a vast claim by the generation who are retired or about to retire on their children and grandchildren who are obligated by law to find the money in the future by submitting either to substantial increases in taxation or to rastic cuts in public expenditure.”<sup>‡</sup>

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\*In October 2009 United Nations Under-Secretary-General for Economic and Social Affairs Sha Zukang called for a new global reserve currency to end the US dollar supremacy, saying “Important progress in managing imbalances can be made in reducing the reserve currency countries ‘privilege’ to run external deficits in order to provide international liquidity. It is timely to emphasise that such a system also creates a more equitable method of sharing the seigniorage derived from providing global liquidity.” (Istanbul, 5.10.09, see [www.un.org](http://www.un.org))

†See National Women’s Law Center, September 2011. “Analysis of New 2010 Census Poverty Data” <http://www.nwlc.org/analysis-new-2010-census-poverty-data-%E2%80%93-september-2011>

‡See *Sunday Times* 17.6.2012.

But, in reality, every society decides autonomously how to share what it produces between the generations. Unpayable past debts are not paid, as many historical examples show. The dislocation resulting from such debt cancellations, restructurings, “haircuts” etc. can be substantial but are soon overcome when the real economy is freed from excessive debt and interest burdens and able to function again. Bankrupt banks can be nationalised and recapitalised, giving the tax-payers a quid-pro-quo. The claim of German economists like Hans-Werner Sinn that “our children will be forced to go to Southern Europe to take back our money” is absurd. The Euro crisis loans have not ended up with the citizens of Greece, Spain etc. but have been used to repay past loans and recapitalise banks, thus transferring (unpayable) claims from lenders and share-holders to tax-payers.

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*“In reality, every society decides autonomously how to share what it produces between the generations.”*

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What makes the coming financial debt deleveraging much harder this time are growing environmental debts. It has been calculated that there is a \$20 trillion bubble of “stranded assets” which have not yet been accounted for but which will have to be written off because of environmental constraints, e.g. water shortages and the need to avoid catastrophic climate change (Bill McKibben).

The conventional political answer is that such issues must wait until “growth” has resumed, making us rich enough to better deal with them. But this is a fundamental error. If business-as-usual growth does resume, it will become increasingly un-economic, consumed by repairing and protecting from its own consequences. Economic “externalities” can no longer be ignored when they dismantle nature’s security and immune systems which underpin our lives, societies and economies. Climate change is already having a global impact on food supplies. The impact is particularly harsh on rural women and their families in low-income countries, as women already spend many more hours collecting scarce water and providing sufficient food for their families than in past decades.\*

The global temperature increases predicted under business-as-usual growth scenarios threaten water and food catastrophes within decades and to make our planet literally uninhabitable within a few generations! There would be no place left to enjoy the fruits of this “growth”...

The Western debate about these momentous issues is still surreal. Studies of growing global resource constraints (e.g. Chandran Nair’s “Consumptionomics”) are taken seriously in China and the reason why it is willing to pay more for future reserves than they are “worth” according to the discount rates used by Western economists.

As Pavan Sukhdev of UNEP has noted, such discount rates assume that we will all be richer in future. If this is not realistic, rates should be negative, to reflect the higher future value of scarcer resources. However, Western elites still prefer to listen to the Danish statistician Lomborg who assures them that the future costs of resource and environmental constraints can be paid from the proceeds of continued “growth”.† But human development and productivity require functioning ecosystems.

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\*See e.g., Lauterbach, Claire and Sarah Bibler, October 2012. “Gender, IFIs and Food Insecurity Case Study: Zambia.” <http://www.genderraction.org/publications/zambiafoodsecurity.pdf>; Gender Actions 2011 Governing Climate Funds: What Will Work for Women? <http://www.genderraction.org/publications/11/climate-funds-for-women.html>

†See *Foreign Affairs* Sept–Oct 2012.

*“Money against performance is not inflationary... Unutilised productive resources can and must be put to work to regenerate our economies, societies and eco-systems.”*

We are not as rich as we imagined. Many pension and investment fund valuations are now based on unrealistic real economy growth scenarios. Savings only transfer wealth to the future to the extent they can be and are invested to produce new wealth. We cannot eat speculative bubbles.

So, how can we dig ourselves out of this hole? The first step has to be to stop digging deeper! We cannot reduce financial or environmental debts by continuing to increase them.

Debts and assets are always equal and reducing one means reducing the other! Receiving interest requires a debtor paying it. In a debt-based money system reducing debts also reduces the money supply. Government debt reductions now demanded

by “the market” are larger and will have to last longer and produce more “austerity” i.e. social capital destruction, than our societies are likely to tolerate. Already these austerity measures are taking a huge toll, especially on women, who have historically taken on the increased work burdens of caring for the sick and elderly in face of cuts to social spending on health, education, and child and elderly care. Moreover, when societies fail to invest in caring for and educating children, they are not only harming quality of life; they are failing to invest in human capacity building — which in the long-term is economically disastrous.<sup>3</sup>

There is only one way out of this dilemma, namely for governments to issue new money and spend it directly into the economy to replace the debt money destroyed by deleveraging. With proper controls, there is no reason why this should be inflationary, despite the scary stories from commentators who are uninformed about the actual history of the Weimar and other historical hyperinflation episodes. Money against performance is not inflationary. If supply and demand grow together, prices remain stable. Central Banks have many tools to ensure that this remains the case.

The long-term costs in missed output, lost skills and health caused by rising unemployment now threaten the social peace in many countries. Unutilised productive resources can and must be put to work to regenerate our economies, societies and eco-systems.

The new money created will be equity, not new debt. It can be issued by the right of governments’ seigniorage (money-issuing) powers, as stipulated e.g. in the US Constitution Art.1, Section 8, to be spent to promote the general welfare, e.g. on education and infrastructure. Governments can also use it to make interest-free loans, e.g. to local authorities.

There are several ways to reduce pre-existing government debts. Debts to the Central Bank, i.e. de facto to itself, can either be cancelled or — if preferable for accounting purposes — exchanged for 100-year interest-free bonds.

Tax-payers would clearly be major beneficiaries of this reform. It would ensure that the income from money creation goes to the whole community and not just to a small minority of bankers, (who would need to borrow from the state to cover deficits instead of vice versa). It is not unprecedented. Thus, it was only from 1973 that national (and later EU) law

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*“It is often said that governments should not “pick winners”. But this is exactly what governments have done in favour of the financial sector.”*

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obliged the French government to borrow from the financial markets to fund itself. It has been calculated that, under the pre-1973 legislation, the French deficit would today be less than 9% of GDP instead of almost 80%.<sup>4</sup>

It is often said that governments should not “pick winners”. But this is exactly what governments have done in favour of the financial sector, passing numerous laws regulating in its favour and legalising the weapons which banks have used not just to create excessive debt money and destabilise our economies but to attack the governments which recently saved them!\*

We must deleverage our accumulated debts before our economies collapse and our planet is irretrievably mutilated — for nature cannot match the profit requirements of compound interest rates! Debt money discounts the future, making its protection and preservation “unaffordable”. Even using low discount rates, it can thus be “proven” that it is “uneconomic” to preserve natural wealth for future generations. Prominent Anglo-Saxon economists have seriously argued that climate-change is mainly expected to damage agriculture which is only a small percentage of GDP in rich countries and can thus be easily compensated by “growth” in other sectors of the economy...

Debt reduction costs will hit the rich as well as pension and insurance funds, as they together hold most of the financial shares and other corresponding assets. The resulting money destruction is likely to further postpone urgent environmental investments as “currently unaffordable”. It is therefore imperative that debt deleveraging is accompanied by new debt-free money creation. Only thus can we kick-start a green industrial revolution of entrepreneurship and job creation in time, restoring the health and wealth of both the people and the planet!

This proposal is not an alternative to taxes on financial transactions, CO<sub>2</sub> emissions and on other uses and abuses of the global commons.<sup>†</sup>

However, these proposals are mired in ideological disputes and it is unclear how much income they will generate, as they are also intended to shrink the assets (financial transactions, CO<sub>2</sub> emissions etc.) to be taxed. Other solutions are either not on the scale of the challenge (e.g. local and regional currencies), a recipe for further debt bubbles or ineffective, e.g. Central Bank funding used by banks to buy back their own debt.<sup>‡</sup>

This proposal may appear radical because of the power of the promoters of current monetary dogmas. However, there is now an increasing interest in such outside-the-box thinking even in conservative institutions which are aware that the “wealth” created by the current financial system is increasingly illusory. Thus, the IMF recently (August 2012) published a working paper entitled “The Chicago Plan Revisited”, arguing that replacing the current system of money mainly created as debt by private banks with government-issued debt-free money would have numerous economic advantages by reducing public and private debts, stabilising business cycles, eliminating bank runs etc.

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\* Between 1998 and 2008, i.e. mostly under a red-green government, Germany passed 38 laws and regulations for the “promotion and liberalisation of the financial markets and the banking sector”. This was justified as facilitating “growth”.

† Major currencies are traded by one global automatic system, regulated by the Federal Reserve Bank of New York. An FTT does not require the agreement of all countries, only a few lines of software code added to this payment system.

‡ See *Financial Times* 11.10.2012.

Recent studies by the Boston Consulting Group (“Back to Mesopotamia?” September 2011)\* and the German Institute for Economic Research ( “Deutsche Bank Research”, 24.8.12) have presented the case for major wealth levies to reduce debt burdens.

This is because these institutions recognise that the only alternative to orderly debt deleveraging is an even more costly disorderly collapse and wealth destruction. Much “wealth” held by creditors now consists of claims which can never realistically be repaid. Assets and liabilities of financial conglomerates consist mainly of liabilities and assets of other conglomerates.

Without a focussed immediate injection of debt-free government money to kick-start the greening of our economies currently stalled by austerity programmes, the required massive financial debt reductions are likely to cause a global depression and social collapse as well as delay, perhaps beyond points of no return, the measures now urgently needed to protect and restore global planetary health.

Cornerstones of the (labour-intensive!) global emergency programme to be funded with new debt-free money would be

- the rapid expansion of renewable energy production, as every day of delay threatens climate chaos and burns fossil fuel raw materials with valuable alternative uses;
- water conservation and food security programmes that emphasize women and the poor as stakeholders in natural resource management;
- the regeneration of our cities, transport systems and buildings;
- the protection of fish stocks and other threatened species;
- investments in sustainable forest management;
- providing education for all and implementing other (much behind schedule) UN Millennium Development Goals;
- strengthening women’s rights to ensure that every child born is wanted;
- projects enhancing global security, governance and trust.

The World Future Council invites interested partners to join us to explore the institutional and legal steps required to implement these proposals.

(Members of the WFC Commission on Future Finance contributed to this paper)

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### **Notes**

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3. Riane Eisler, *The Real Wealth of Nations: Creating a Caring Economics* (San Francisco: Berrett-Koehler, 2007).
4. Bernard Lietaer et al., *Money and Sustainability: The missing link* (Axminster: Triarchy press, 2012), 125-127.

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\*The reasons given for regular debt forgiveness in ancient Mesopotamia were “freedom, justice, equity and that the strong might not oppress the weak”.

## The Power of Money

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### Abstract

*Although we all use money every day, the nature and functioning of money seem shrouded in commonplace myths and ancient mysteries. Money plays a central role in economics today, yet rarely do we come across a serious, informed discussion of what money really is and what role it plays in the development of society. Money is a remarkable human invention, a mental symbol, a social organization and a means for the application and transfer of social power for accomplishment. This article is the first in a series of articles exploring the origins, nature and functioning of money and its creative power by comparing money with two other pre-eminent social institutions – language and the Internet.*

Money, according to the adage, makes the world go round. And just now the world appears to be spinning wildly out of control, escaping from its traditional orbit and raising the specter of a head-on collision with economy, democracy and the welfare of humanity. Concern with the prevailing monetary system has given rise to calls for abolition of the current system of national currencies, a return to the gold standard, elimination of debt money and interest, reversion to local currencies that were prevalent in earlier centuries, and invention of new forms of money such as energy currency or earth currency linked to productive capacities and natural resources. The plethora of ideas floating around suggest that there is widespread discontent and confusion intermixed with a good dose of myth and superstition regarding the origin, nature and role of money in society.

Rather than hastening to contribute one more solution to the mountain that has been proposed, we may do well to first inquire into the fundamental principles on which money is based and the process by which it has evolved with the development of society. This may help us identify the precise points at which the global monetary system has become vitiated and ensure that any changes we propose are in line with humanity's evolutionary advance.

### 1. What is Money?

Money, according to economists, is a medium of exchange, store of value, unit of account. To which other social sciences might add, it is a source of status and social prestige, a provider of physical and psychological security, a contributing factor to human welfare and

well-being, a basis for military strength, a source of public influence and political power. But these terms merely describe its major functions without really explaining what money is.

Money is an evolving symbol of economic value and social power. Over the past two thousand years, it has undergone numerous changes in form, content and the source of the value it seeks to represent. In early times, money took the form of objects of intrinsic value such as cows, tobacco, furs, grain, and various metals. It later took the form of intrinsically or ornamentally valuable objects such as precious metals, which acquired symbolic value as a representative for many other objects. It was also standardized in the form of coins minted from precious metals, whose value was linked to their metallic content.

The introduction of purely symbolic money as a substitute for material objects marked an important stage in social development. Symbolic money was created based on trust in an issuing institution, such as the receipts issued for grain on deposit in the Pharaoh's warehouses or gold on deposit with London goldsmiths, and the myriad bank notes issued by literally thousands of American banks during the 19<sup>th</sup> century.

Originally intended to reflect existing material assets, money also gradually evolved to represent future intention and purchasing capacity. Promissory notes indicating an intention to pay in future became a powerful stimulus to trade in Renaissance Italy. Wooden tallies issued by the British treasury became prevalent around the same time to represent the Treasury's future tax receipts. The government bonds so prevalent today constituted an essential foundation for the rise of modern nation-states. Ultimately, this led to the issuance of purely fiat currencies, backed only partially by precious metals and anticipated tax revenues. The real backing for national currencies is trust in national institutions of governance supported by the physical assets and productive capacities of the nation issuing them.

The progressive etherealization of money has given rise to endless suspicions, cries of outrage and conspiracy theories, under the assumption that money is, in essence, a physical thing (like the cows and gold nuggets) which has been corrupted and perverted by evil minds. But the etherealization of money has also taken place during the most remarkable period of development in human history and has been associated with a seven-fold rise in real global per capita GDP, so we are advised to seek to fully understand its contribution to human development before condemning and rejecting it wholesale. Closer analysis will show that the growing power of money has always arisen from its symbolic value. Still we are describing only types of money without yet inquiring into what money truly is. We can better understand the power of money by conceiving of it as a purely human creation.

## **2. Language as a Social Organization**

Throughout history, human beings have striven to develop capacities to enhance their power of individual and collective accomplishment. Some capacities are primarily powers of the individual, such as skill in running, climbing, shooting, fire making, cooking. Other powers, such as language, family and government, can only develop and be expressed in relationship with other people. Money is one of the primary collective powers developed by humanity for social accomplishment. Like language, money is an instrument to promote productive, cooperative human social relationships.

Money is one of the greatest inventions of all time. Like language, money is not a thing in itself but rather a social organization designed to promote and facilitate interaction and interchange between human beings over space and time. Language consists of symbolic sounds and images in the form of words, but those words are meaningless objects until assigned a standardized value by members of the community, so they are commonly accepted to represent the same thing to different people. Language is an arrangement and organization of sounds, signs, letters, figures and words in a sequence according to rules of grammar and diction, standardized forms and established conventions, which facilitate communication of ideas, intentions, feelings, sensations and physical facts.

Language has made possible the evolution of Homo sapiens from merely gregarious social animals through civilization and culture into creative, inventive, thinking, learning human beings governed by values, ideals, ideas, prevailing beliefs, customs, laws and a huge body of facts and knowledge derived from past experience. Language is the foundation and medium for interpersonal relationships, family, community, civilization, culture and all higher human attainments. Language makes possible the preservation of past experience, discovery and accumulated knowledge on which civilization is based; the sharing of experiences, ideas and feelings over vast intervals of time and distances in space; the communication of our deeper emotions on which intimate human relationships are founded; and the formulation of dreams, aspirations and ideals which direct our energies for future progress.

The social organization we refer to as language has endowed humanity with a power for individual and collective accomplishment unimaginable for other species. Language generates power and is a form of power – power for communication, knowledge, relationship, production and exchange, war and negotiated peace, governance, education, scientific and technological development, intellectual inquiry and artistic creativity, recreation and entertainment, romance, religious worship and spiritual enlightenment.

### **3. Money as Social Organization**

Money is also a social organization based on generally accepted symbols, set rules, standardized forms and established conventions. Money too depends on acceptance of common standards for form, unit, value and recording. It is a social organization which includes institutions related to minting, issuing, banking, transmission, accounting, taxation, etc. Though originally assuming the form of objects of intrinsic value, the time is long past since the institution of money evolved more symbolic forms which were easier to transport, store and innovatively adapt to represent non-material forms of value.

As language promotes exchange of ideas, information and intentions, money facilitates the exchange between human beings of goods, services and other things of perceived value. Exchange is the social and economic basis for the evolution of society. Without exchange, each human being must rely solely on his own energies to produce all that he desires or on his capacity to take by force that which is possessed by others. Exchange replaces physical violence and war. It makes possible division of labor, specialization and conversion of one type of good or service into any other type. Exchange is possible without money, just as communication is possible without spoken or written language, but in both cases, they are severely constrained in utility, scope, space, time and effective power without the aid of higher symbolic forms.

The evolution from barter exchange to monetary exchange has resulted in enormous social progress – from isolated rural communities into regions organized around urban centers, city states and eventually kingdoms, nation-states and the emerging global community. The evolution of money has facilitated the growth and development of production, commerce, armies, governments, education, science, technology, urbanization and all forms of art.

#### **4. Evolution of Social Power**

When human beings exist at subsistence level, money has little utility, since each person produces just sufficient for self-consumption. At the time of Adam Smith only about 15-20% of production passed through monetarized exchange. Initially, money represented the added value of a commodity when a producer employed his surplus production for trade rather than for self-consumption. As production and trade expanded, money came to represent the power of the society for production and exchange of a wide range of products and services. As society became more complex and integrated, money came to represent the conversion value of one form of social power (productive, political, educational, social, transport, communication, entertainment) into another form. Thus, it evolved into a generalized symbol for all forms of social power and a medium for transfers from one form to another. Production, trade, money, banking, finance, governance, transport, communication, education all form elements of the integrated social organization which is the source of all wealth and power. As recent experience illustrates, the attempt to separate economy or banking from governance shows just how interdependent economy and politics have become. The political power of money in modern democracy is their relationship and interconvertibility.

Society has become a seamlessly integrated whole. All forms of social power contribute to the collective capacity of society to accomplish that underlies the value of money. In the measure that an ordinary bag of grain can now be converted into more education, medical care, entertainment, travel, etc., it has acquired far greater value than the original bag of grain produced by the subsistence farmer in the distant past. Money is a means for multiplying the value of every human attribute and capacity.

#### **5. Internet**

A comparison of money and the Internet may more clearly place money in its evolutionary context. The Internet is the first truly global social organization functioning ubiquitously in space and instantaneously in time. It capitalizes on the powers created by all previous organizations, most especially the communication power of language and exchange power of money, to generate an unlimited power for collective social accomplishment. As an instrument for personal and social communication, it dwarves the power of all the mechanisms previously devised through history from the newspaper to the telephone and television. As an instrument for education, it makes conceivable the delivery of the highest level and quality of education to all human beings in the near future. As an instrument for governance, it makes feasible, if not yet actual, the participation of all citizens in the process of law making. Humanity, which was just a few millennia ago dependent on the beat of the drum for conveying messages quickly through space and rock paintings to record events for posterity, now depends on the Internet, which provides it with the capacity to communicate, exchange and unite as a single social body globally.

## 6. Sources of Social Power

The extraordinary and unique social power of money arises from multiple sources:

**Exchange:** Money facilitates exchange, so valueless surplus acquires value. (An isolated French village around 1900 fed its surplus grape production to the pigs since it had no way to exchange grapes for other things of value. A year after a road and bridge connected the village to the nearest town, it began exporting wine. Like roads, money facilitates exchange).

**Efficiency:** The advantages of money over barter, which requires the double coincidence between buyer and seller, are well documented. As the introduction of Hindu/Arab numerals and double entry book-keeping vastly facilitated the growth of commerce in Italy during the late Middle Ages (imagine trying to multiply and divide with Roman numerals! or to calculate profit from a cash ledger), money vastly facilitated exchange in terms of the variety of products, number of transactions, extended over space and time.

**Energy:** Money is a catalyst for transactions. Exchange energizes people to take greater effort. It provides an incentive for producers to produce more than they can consume and to also produce things of which they have no need, but, which have value to others.

**Trust:** By promoting exchange, money fosters cooperative human relationships for mutual benefit, even among those who do not know each other personally. It promotes trust in others. Each successful transaction increases confidence between buyer and seller and augments the propensity for further transactions. Thus, money encourages the extension of trust which is essential for cooperation and expanding human relationships. Initially, trust is personal in someone we know. Personal trust in known individuals is extended to strangers through the medium of money. At a subsequent stage, trust in individuals and transactions grows into trust in the system for exchange and the institutions that facilitate that exchange (middlemen, processors, distributors, warehouses, retailers, financiers, and customers). Human and institutional relationships expand. Society grows more sophisticated and complex. The individual participates in a widening social network and progressively universalizes his capabilities, similar to the way internet expands the reach of each individual human being.

**Inter-convertibility:** As already discussed, money fosters the formation of complex, integrated societies by facilitating the exchange of one form of social power into other forms. The power to produce crops can ensure protection from famine. The power of a strong military can defend against invasion. Good roads facilitate transportation. Schools and scholars promote advancement of education and knowledge. Political institutions promote effective governance. Each can develop independently, to a certain extent. But in order for society to emerge as a cohesive unit, they need to be integrated. Money makes possible that integration by facilitating inter-convertibility of one form of social power into all other forms.

**Society:** Ultimately, money comes to represent the overall power of society to achieve its varied goals in all spheres of life. Without money, modern society is inconceivable. Without society, money has no value.

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*“Money fosters the formation of complex, integrated societies by facilitating the exchange of one form of social power into other forms.”*

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## 7. Myths about Money

*“Liberating ourselves from allegiance to outdated attitudes is the essential condition for converting the current crises into evolutionary opportunities.”*

Money is subject to a range of myths and superstitions that pose serious obstacles to its further evolution. Our notion of money as a thing gives credence to the superstition that it must necessarily be scarce in the same way land and precious metals are scarce resources. But understanding money as a social organization, we perceive that it is capable of infinite multiplication, the same way information, knowledge, law, education and other social institutions can and do multiply. As humanity now possesses the capacity to produce sufficient food, clothing, housing, education

and medical care to meet the needs of all human beings, it also has the capacity to create sufficient money to ensure effective distribution of those necessities.

The evolution of money is a key to universalizing prosperity through peaceful social evolution. The opening up of commercial relations between China and USA in the 1970s is a dramatic example of the power of money to channel human energies from destructive violence to peaceful cooperation. Today, we live in a world with unprecedented productive capacity. Yet, it is also a world in which precious human, social and productive capacities remain underemployed or unutilized. The problem we face today is not incapacity to meet human needs, but incapacity to fully utilize our productive capacities for the benefit of all humanity. Understanding and attitudes toward money constitute a central part of the problem.

So too, the social status traditionally acquired and still enjoyed by the wealthy also supports the myth that scarcity of money is essential for social welfare, the same way feudal aristocracy believed that limiting status and privilege to a rare few – 10,000 families in 18<sup>th</sup> century England – was essential for social stability and preservation of culture. The prevailing ideals and values of the 21<sup>st</sup> century compel us to multiply and distribute the privileges of freedom, equality and social security to all humanity.

The times of scarcity are drawing to an end. Ushering in abundance of freedom, rights, education, wealth and power-sharing will necessitate a breaking of established privileges and entrenched power structures. In the past, this has almost always been accomplished by violent revolution. Today, we have the means to make the transition by peaceful evolution rather than violent revolution. As in the past this process will be driven, not by the permission of the privileged, but by the idealism, aspirations, demands and actions of humanity.

Attacks on the prevailing system of money are an encouraging indication of a growing social awareness and aspiration for a more effective and equitable organization of social power. An impartial, objective inquiry into the social origins, power and evolution of money is the right starting place and essential condition for fashioning a better future for humanity.

The problems the world faces today are because human attitudes have not evolved to keep pace with advances in technology and social institutions. Liberating ourselves from allegiance to outdated attitudes is the essential condition for converting the current crises into evolutionary opportunities.

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## **On the Need for New Economic Foundations: A Critique on Mainstream Macroeconomics**

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### **Abstract**

*The body of macroeconomic theory known as the neoclassical-Keynesian synthesis, hereafter mainstream macroeconomics, has dominated the practice of economics since the middle of the twentieth century and is largely unchallenged in institutions that teach economics. Not only does mainstream macroeconomics underlie monetary and fiscal policies intended to promote economic growth, full employment, and price stability, but it also provides the lens through which economic activity is measured and performance is evaluated. Most importantly, it has spawned a generally accepted ideology or conventional wisdom that frames economic issues and 'acceptable' policy responses to them. Woe to the economist or politician who strays beyond the constraints imposed by the beliefs emanating from this body of theory. Mainstream economic theory has always had its critics, but the failure of mainstream economists to predict the collapse of 2008 and the failure of the policy responses to the crisis have stimulated a new round of criticism. This paper surveys a range of criticisms made by economists and non-economists alike and finds that grounds exist for the rejection of mainstream macroeconomic theory. It is mathematically incoherent and irrelevant insofar as the assumptions upon which it is based are not supportable; its concepts are abstract and not measurable, and not capable of addressing the real questions of sustainability, economic stability, power, justice, and equity that affect the human condition. The conclusions reached are: 1) mainstream economic theory took a profoundly wrong path in the mid-twentieth century 2) foundations for a new synthesis of economic thinking are needed capable of addressing the issues that emerged in the late 20<sup>th</sup> century and integrating findings from other sub-disciplines of economics and other sciences.*

### **1. Introduction**

John Ralston Saul, a social critic who has freed himself from the chains of political correctness, in his 1995 Massey lecture, "The Unconscious Civilization," assessed economics in the following terms:

*"Economics, as a prescriptive science is actually a minor area of speculative investigation. Econometrics, the statistical, narrow, unthinking, lower form of*

*economics is passive tinkering, less reliable and less useful than car mechanics. . . . economics has been spectacularly unsuccessful in its attempts to apply its models and its theories to the reality of our civilization. It's not that the economists' advice hasn't been taken. It has, in great detail, with great reverence. And in general, it has failed."*<sup>1</sup>

This is a serious condemnation, and Saul is not alone. The list of those who have critiqued various aspects of neo-classical economics begins as early as 1898 when Thorstein Veblen penned "Why is Economics not an Evolutionary Science?" published in *The Quarterly Journal of Economics* which includes such eminent authors such as Oskar Morgenstern<sup>2</sup>, Nicolas Georgescu-Roegan<sup>3</sup>, Fred Hirsh<sup>4</sup>, Kenneth Boulding<sup>5</sup>, Wassily Leontief<sup>6,7</sup>, Herman Daly<sup>8,9</sup>, Robert Nadeau<sup>10,11</sup>, Charles Hall<sup>12</sup>, Eric Beinhocker<sup>13</sup>, Steve Keen<sup>14</sup>, Giovanni Dosi<sup>15</sup>, John Kay<sup>16</sup>, Daniel Kahneman<sup>17</sup> and David Graeber<sup>18</sup>, to name a few.

Is the condemnation warranted? If it is, can mainstream economics be adjusted or is it time to devote effort to the task of formulating a new set of principles that should underlie a new synthesis in economics? These are the questions addressed in the following essay.

## **2. Elements of Mainstream Macroeconomic Theory**

Mainstream macroeconomic theory frames economics as a global optimization problem that can be stated in the following terms: maximize the value of production subject to the availability of the factors of production, labour and capital. Production is the value added by labour and capital to freely available natural resources. Mainstream economics is, in essence, a theory of value.

Mainstream macroeconomic theory is a structure of deductive reasoning based on two first order behavioural axioms: consumers act rationally to maximize their individual utility, and; producers are price takers who adjust output levels to maximize profits. Two second order restrictions on these behaviours are assumed to be true: Individual consumer utility functions are separable and hence additive, and; individual producer cost curves are U-shaped, thereby giving rise to increasing marginal costs (decreasing returns to scale).

Under these conditions, according to generally accepted macroeconomic theory, utility or value added is at its maximum when prices are set at the point where marginal costs equal marginal revenues at the intersection of downward sloping demand curves and upward sloping supply curves. At this point of competitive general equilibrium, profits for all producers are zero. It follows from this theory that market prices are objective and universal measures of value that can be used as weights for aggregation. Macroeconomics can then be legitimately specified in terms of relationships among a small number of aggregate variables such as gross domestic product, consumption, investment, savings, exports, imports.

If it is further assumed that labour and capital are immobile, international trade between nations is mutually beneficial. This is known as the law of comparative advantage.

## **3. The Conventional Wisdom**

Mainstream economics has spawned and rationalized the ideology of free-market capita-

lism. Tenets of the conventional wisdom that emerge from and are rationalized by mainstream economics can be summarized as follows:

- The economy is a self-regulating system set in motion by the ‘invisible hand’ identified by Adam Smith in his *The Wealth of Nations*. Barring market imperfections, the factors of production, labour and capital will be optimally utilized in the creation of value.
- The main objective of economic policy is to ensure sufficient economic growth to achieve ‘full’ employment and price stability.
- Externalities, such as pollution and global warming, are the result of market failures and these are best addressed by economic instruments such as special taxes or cap and trade systems that internalize external costs rather than by bureaucratic regulatory intervention.
- Concentrations of market power or monopolistic practices are market failures that can be addressed by competition policy.
- Profit maximizing behaviour by private enterprise that creates shareholder value is socially beneficial.
- Producers and consumers alike should be free to pursue private interests.
- Speculation and hedging are stabilizing activities and are of social value.
- Market prices, once corrected for imperfections, are objective indicators of value and lead to an optimal allocation of resources.
- Cost-benefit analyses using market prices for summing and comparing costs and benefits and a discount rate for establishing the present value of future costs and benefits are appropriate for establishing public policy.
- Private enterprise and private ownership are to be preferred over government and state ownership in the provision of goods and services.
- Market determined wage rates reflect workers’ productivity and generate an appropriate distribution of income.
- Globalization involving free trade among nations is mutually beneficial.
- The performance of the economy can be adequately monitored by measuring the rate of change of a few macro economic variables: total production indicated by GDP, the rate of unemployment, inflation, the rate of savings and investment, consumption, exports and imports, the foreign exchange rate, and productivity indicated by output per employee or total factor productivity.

#### **4. What’s Wrong with Mainstream Macroeconomic Theory?**

A first basis for rejecting a theory would be to show that the theory is irrelevant either because the wrong problem is being addressed, wrong in the sense that it is not one that is empirically given or because the theory is cast in terms of concepts that cannot be observed with the consequence that the theory cannot be empirically rejected.

A second basis for rejection would be to show that inappropriate, inadequate, or over-simplifying assumptions have been made. Arguments of the second kind are often identical with the first kind.

A third basis would be to show that, even if the assumptions are granted, the asserted conclusions do not follow. This basis for rejection is unequivocal.

From the arguments below, mainstream macroeconomic theory and the conclusions derived may be rejected on the grounds of all three bases.

## 5. Relevance for Current Economic Issues

It has been asserted that the first criterion for the rejection of mainstream macroeconomic theory would be the identification of generally agreed upon important issues that cannot be addressed by the theory. The existence of such issues goes to the relevance of the theory. This is not to say that there aren't sub-disciplines or specializations in the field of economics that do address these issues, but they do so from within a narrow context either by adding concepts to mainstream macroeconomics or without reference to it. It is often the case that add-ons contradict the basic assumptions of macroeconomic theory. There are several such issues.

- *Biophysical constraints*: Global warming, caused in part by the limited capacity of sinks to absorb carbon dioxide emissions, 'peak oil' reflecting the finite endowment of conventional oil, the collapse of fisheries, the deterioration of soils, the pollution of air and water are all important examples of biophysical constraints. Mainstream macroeconomics is unable to address the issue of biophysical constraints because the implicit assumption of freely available sources and sinks for material and energy is in conflict with the existence of biophysical constraints. Further, macroeconomic variables are aggregates expressed in value units whereas biophysical constraints are naturally expressed in physical units and have physical properties specific to each source or sink.
- *Conflict between the goals of 'economic growth' and 'sustainability'*: Ever since the publication of the Brundtland report in 1987, the objective of sustainable development and the concept of sustainability have been widely embraced.<sup>19</sup> Economic growth in mainstream macroeconomics is constrained only by the sources of value, namely labour and capital, whereas sustainability is concerned with long-term pathways that lie within biophysical constraints and the limits imposed by our understanding. The inability of mainstream macroeconomics to incorporate biophysical constraints, as noted above, and its emphasis on short-term prediction make the theory inappropriate for sustainability analysis.
- *Financial Shocks*: It is widely accepted that macroeconomists failed to predict the financial collapse of 2008 or even the possibility that such a collapse could occur. Worse still, it is becoming clear that prescriptions of macroeconomists have failed to return the economic system to levels of performance achieved before the shock. Nor is it clear that the economic system hasn't undergone a sufficient change in structure that such a return is even possible. At a minimum, an economic theory capable of addressing financial shocks must include asset valuation and debt; both are balance sheet items

or stocks. As mainstream macroeconomics is confined to flows in the real economy, it is not surprising that those who focus on macroeconomic variables would not see signs of an impending crisis. Further, as pointed out by George Soros in his theory of reflexivity<sup>20</sup>, bubbles and their collapse involve disequilibrium and the dynamics of the responses to shocks, all of which are well outside the general equilibrium, comparative static orientation of conventional macroeconomic theory.

- *Income Distribution*: That the distribution of income is becoming more skewed and that such skewed distributions are the major cause for concern are well documented.<sup>21</sup> Mainstream macroeconomic theory holds that the distribution of income that results in free-market capitalism is optimal with the consequence that there is no need to monitor it. However, as we have seen, the basis for that conclusion is flawed.
- *Performance indicators*: Mainstream macroeconomics offers only a single variable to indicate economic performance, namely total value added or the familiar Gross Domestic Product (GDP). Much has been written on the inadequacy of GDP as a performance indicator, the most prestigious of which is the recent report by the Commission on the Measurement of Economic Performance and Social Progress appointed by President Sarkozy.<sup>22</sup>

## 6. Global Optimization

It is the property of an optimization problem that extrema exist and can be reached only if all the control variables upon which the maximum depends are under the control of a single individual or agent.<sup>23</sup> Since economies consist of many agents and each transaction involves at least two agents, it is clear that, in general, agents do not have complete control over their activities. Therefore, it is inappropriate to cast economic theory as an optimizing problem. From this argument, game theory, insofar as it places decision making in the framework of games of strategy and takes into consideration the conflicting interests of participants, would appear to be a more apt description of the meta-problem.<sup>24</sup>

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*“There is growing evidence to refute the axiom that human behaviour can be characterized as the pursuit of self-interest.”*

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## 7. The Complexity of Human Behaviour

There is growing evidence to refute the axiom that human behaviour can be characterized as the pursuit of self-interest. For example, “. . . discoveries in evolutionary biology, neurocognitive science, and child development reveal that people are biologically predisposed to be empathetic – that our core nature is not rational, detached, acquisitive, aggressive, and narcissistic, but rather, affectionate, highly social, cooperative and interdependent.”<sup>25</sup> The size and nature of the groups within which empathetic or cooperative behaviour is operative or dominant have perhaps evolved over time from the family to the tribe, then to the settlement, the city-state, the nation and increasingly to all people. That humans seek to maximize utility has been questioned by Herbert Simon who proposes that satisficing behaviour or ‘good-enough’ decision making is apt to be more prevalent.<sup>26</sup> Daniel Kahneman has accumulated a body of

evidence from which he concludes that humans are genetically programmed for fast thinking or intuitive behaviour, rather than rational behaviour that requires an investment of effort.<sup>27</sup> Using case study data, Elinor Ostrom has shown that effective management of common-pool resources, such as a fishery, requires co-operative behaviour and that examples of effective management can be found.<sup>28</sup> The evidence suggests that human behaviour is too diverse and complex to be represented as an aggregate consumer agent.

## **8. Externalities, Common-Pool Resources, and Positional Goods**

The second order condition that individual utility functions are separable does not correspond to a reality in which externalities, common-pool resources and positional goods are important. An externality is a cost or benefit that accrues to a third party or parties not involved in a transaction between two parties. The transaction price agreed upon by the two parties to the transaction does not then reflect the true social costs/benefits associated with the transaction and results in more or less than optimal production in competitive markets. Releasing pollutants into air and water, and emitting carbon dioxide into the atmosphere are examples of important externalities. In the real world, external costs may well be as important as the costs internalized in product prices. When externalities are present, it is clear that the utility of the party receiving the external (dis)benefit depends on the actions of others. Positional goods, those whose value is derived at least in part on exclusivity, have the same consequence insofar as the utility of the owner of the positional good depends upon those not having access to it.<sup>29</sup> Extraction by an agent from a common-pool resource with the property of subtractability, such as a fishery, reduces access by other agents. Externalities, common-pool resources and positional goods are all instances where individual utility functions are interdependent. The consequences are utility functions are not additive and global optimization is not possible.

## **9. Increasing Returns to Scale and Market Power**

There is little or no empirical evidence in support of the second order condition that the cost curves of individual producers are U-shaped. Steve Keen argues that constant or decreasing marginal costs are a more realistic condition.<sup>30</sup> Indeed, the domination of many markets by a small number of powerful corporations suggests decreasing marginal costs which may well be the rule. Brian Arthur cites examples of industries with decreasing costs and argues that decreasing costs are increasingly important in his paper entitled “Increasing Returns and Path Dependence in the Economy”.<sup>31</sup> This implies that corporations are not price takers; rather, they set prices as a mark-up over cost. The size of the mark-up is what the market will bear and is a reflection of market power.

## **10. Factors of Production**

Mainstream macroeconomic theory rests on the assertion that labour and capital, as sources of value, are the factors of production. Sometimes land is included as a third factor, but the value of land derives only from the labour and capital expended in improvements. Production is then the value added to freely available natural resources by labour and capital. Kenneth Boulding has written that progress in economics will be impeded as long as labour

and capital are considered to be the foundational elements in production, just as, he points out, progress in Chemistry was impeded as long as fire, water, air and earth were considered to be foundational elements, and that it was not until atoms were considered to be foundational that great progress was made in Chemistry. Boulding suggested that the foundational elements for production should be materials, energy, and know-how. Control might be added as a fourth factor. Production in this framing of economics consists of the transformation of materials using energy and know-how subject to on-going control.<sup>32, 33</sup> Note that labour is at once a source of energy, know-how and control: capital is at once saved labour; it embodies know-how and control and enables the use of energy from non-human sources. It follows that the concepts of 'labour' and 'capital' confound those suggested by Boulding. Further, if the concept of energy is not explicitly recognized in macroeconomic theory, coherence with the laws of thermodynamics cannot be assured.

## 11. General Equilibrium and Time Structure

Mainstream macroeconomic theory is concerned with economic systems in equilibrium. Just as a mechanical system is in equilibrium when the sum of the forces acting upon it is zero, an economic system is said to be in a state of equilibrium when economic forces of demand and supply are balanced. Equilibrium in a single market is achieved when the quantity of a good sought by buyers is equal to the quantity produced by sellers. General equilibrium is achieved when the markets for all goods and services are in equilibrium. Macroeconomic theory is then a structure for comparing the equilibrium states of an economy before and after the application of an external force taking into consideration that a force directly affecting a single market will impact all markets. The theory is not concerned with processes by which the change is propagated throughout the system nor the time paths of the variables between equilibrium states. There are a number of problems with the comparative statics – general equilibrium approach for representing economic systems. The use of Newtonian mechanics as a model for economic theory is inappropriate. There is no reason to believe that the behaviour of economic agents is subject to inviolable laws as is the case with mechanical systems; the 'forces' of supply and demand are abstract, unitless and in no way analogous to the forces acting upon a physical object. The economic system depicted by neo-classical theory does not encompass the most important characteristics of the Earth system in which human activity plays an important role. The Earth system is far from (thermodynamic) equilibrium; Earth system processes, subject to the laws of thermodynamics, transform low entropy energy from the Sun into high entropy energy radiated from the Earth's surface into space. Work that is useful for human purposes can be accomplished by tapping into the movement of energy through Earth's systems or by reconfiguring those systems. Should thermodynamic equilibrium be reached, all matter would end up in a uniform mix of everything, water would collect in the world's oceans and all biomass would be burnt to ashes; the planet would be without life.<sup>34, 35, 36</sup> The time dynamics of the Earth processes are critical; if all such processes were instantaneous, thermodynamic equilibrium would be reached and life would not be possible. Gregory Bateson concluded that "Interactions among component processes take the form of causal chains that may be complex. The representation of time structure is essential. When sequences of cause and effect become circular, then the mapping of those sequences onto timeless logic becomes self-contradictory or paradoxical."<sup>37</sup> Perhaps this explains why the mathematics of mainstream economics is so convoluted that few can

understand it. Kenneth Boulding wrote that “Equilibrium has become a kind of holy sacrament in economics and has seriously diverted attention from the real world of Heraclitean flux . . . The economic system is a structure in space-time. Consequently, it is evolutionary, subject to constant and irreversible change.”<sup>38</sup> Macroeconomic theory, focusing exclusively on equilibrium states and comparative statics, risks irrelevance insofar as it neglects far-from-equilibrium processes essential in the course of evolution.

## **12. Stocks and Flows**

Mainstream macroeconomic theory is specified almost exclusively in terms of relationships between flow variables. Kenneth Boulding observed that “Another taxonomic and conceptual problem that has plagued economics from the time of Adam Smith is the confusion between stocks and flows . . . The capital stock is a population of items, production is births into that population, consumption is deaths . . . Furthermore, the idea that production is consumption is only partly true. What we get satisfaction from, for the most part, is use, not consumption . . . This has led to an extraordinary neglect of information collection about the capital structure . . . and the absurd view that it is income which is the only measure of riches.”<sup>39</sup> If well-being depends at least in part on the existence of stocks, it is a small wonder that GDP, a flow variable, is a poor indicator of well-being.

## **13. Mobility of Capital and Comparative Advantage**

The law of comparative advantage that provides the rationale for ‘free trade’ rests on the assumption that the factors of production, labour and capital are immobile. Herman Daly has written that “Without that assumption, (Ricardo’s very restrictive assumption that capital is immobile between nations), the principle of comparative advantage collapses and the rationale for globalization along with it.”<sup>40, 41</sup> What is left is the absolute advantage enjoyed by powerful nations by way of military prowess, endowments of valuable natural resources such as oil, protected intellectual property, social order, and investments in a highly trained workforce and public infrastructure.

## **14. Scientific Method**

Unlike physical sciences, macroeconomics is not based on a methodology that allows it to reject hypotheses. Scientific hypotheses must be stated in terms of concepts that can be observed and measured if hypotheses are to be falsifiable. Economic concepts, such as utility, markets, and supply and demand curves, are appealing abstractions, but they are neither observable nor measurable. For example, the hypothesis that demand curves are downward sloping cannot be falsified as demand curves cannot be observed. In his book, *Technopoly*, Neil Postman,<sup>42</sup> the well-known critic of modern culture, observes that “The status of social science methods is further reduced by the fact that there are almost no experiments that will reveal a social science theory to be false.”

## **15. Measurement and Quantification**

The system of national accounts, that is the standard for national and international stati-



tical programs, serves to measure aggregate macroeconomic variables such as production, consumption, investment, price inflation, labour income and employment needed for the quantification of the relationships among them. It is perhaps worth noting that macroeconomics is perhaps the only science whose practitioners are so far removed from the processes of measurement; in many sciences theories about the real world are accompanied by theories of measurement. Oskar Morgenstern, in his assessment of the accuracy of national income statistics<sup>43</sup>, concludes that the measurement processes used by statistical offices in the compilation of national income statistics are subject to such wide margins of error that the use of statistical techniques to make inferences about the parameters of the relationships is problematic.<sup>44</sup> It is also to be noted that, in spite of the fact that the dominant economic system is called capitalism, there are few measurements of stocks of capital, if any.

## 16. Mathematical Incoherence

Even if the behavioural axioms for consumers and producers are accepted along with the second-order restrictions, macroeconomic theory is mathematically incoherent. It can be shown that the addition of downward sloping demand curves for individual consumers to form market demand curves does not necessarily result in downward sloping market demand curves. It can also be shown that supply curves for producers cannot be added together to form market supply curves. These arguments were made by Oskar Morgenstern in his “Thirteen Critical Points in Contemporary Economic Theory: An Interpretation”.<sup>45</sup> The proofs for these statements are presented by economist and mathematician Steve Keen in the recently published book entitled *Debunking Economics*.<sup>46</sup> Interestingly, Keen found that the aggregation problems for demand curves and the non-existence of a supply curve had been discovered and published in economic literature by William Gorman in 1953 and George Stigler in 1957. These results had been ignored or glossed over even by Gorman himself and in economics textbooks from Samuelson to Mankiw, with the consequence that most economists are not aware of them.<sup>47, 48</sup>

Any one of the preceding arguments provides sufficient grounds for the rejection of mainstream macroeconomic theory. Taking into consideration the irrelevance of the theory for addressing major challenges, the weakness of the axioms and assumptions upon which the deductive reasoning is based, and the mathematical incoherence of the reasoning, the case in support of Saul’s indictment is indeed strong. It is particularly devastating that economic theory which relies almost exclusively on deductive reasoning for its validity is found to be mathematically incoherent. John Kay, in his essay “The Map is not the Territory” discusses the dependency of macroeconomics on deductive reasoning.<sup>49</sup>

## 17. Concluding Observations

The mainstream economics upon which the conventional wisdom that shapes economic policy is based is fatally flawed. I think that Dosi is correct in his assessment that economics took a wrong turn in the middle of the twentieth century. Until that time, economics was more pluralistic, encompassing perspectives from several schools of thought. Perhaps it was the mathematical formalism introduced by Paul Samuelson in his *Foundations of Economic Analysis* that served to propel the neo-classical synthesis to its position of dominance.

“*There is an urgent need to enunciate the foundations upon which a new economic synthesis can be based.*”

Many of the prescriptions that emanate from conventional wisdom must be questioned if not abandoned. For example, if labour is not a binding constraint on production, stimulating economic growth as a means for achieving full employment may be inappropriate. It is likely the case that sources of energy and materials and sinks for wastes, notably carbon dioxide,

are increasingly important as binding constraints. Even so, as energy and the engines that use energy to produce useful work continue to displace labour as a source of work, increasing output does not lead to proportional increases in employment. Conventionally, income from employment and savings from employment income are the means by which people have access to the goods and services they require over their lifespan. Able-bodied people unable to find employment are stigmatized as a burden on society and are denied access to all but the most basic of goods and services. The challenge will be to find means other than employment for providing fair or equitable access to needed goods and services. Second, it is clear that cost-benefit analyses of social programs using market prices for weighing costs and benefits and a discount rate for calculating present values are inappropriate insofar as market prices cannot be considered an objective measure of societal values even in the absence of externalities.

There is an urgent need to enunciate the foundations upon which a new economic synthesis can be based. A starting point may be found in the work of Kenneth Boulding, particularly his book *Ecodynamics: A New Theory of Societal Evolution* published in 1978.<sup>50</sup> Boulding proposes an evolutionary approach to economics. The distinguishing feature of evolutionary systems is its focus on the generation of unpredictable novelty in systems far from thermodynamic equilibrium and the propagation of novelty from generation to generation. In human populations, knowledge is accumulated in the collective mind-space of society and is embodied in artifacts that transform materials and energy to provide the services needed for the sustenance of human life. It follows that economics needs to encompass two kinds of entities: processes that transform materials, energy and information, both naturally occurring and purposeful, and agents, individuals and institutions that create and control biophysical processes directly and indirectly. This emphasis on knowledge generation is echoed in the work of Brian Arthur in his 2009 book entitled *The Nature of Technology: What it is and how it evolves*.<sup>51</sup>

Much valuable research has been done in specialized sub-disciplines of economics and other disciplines, including economic history, the history of economic thought, institutional economics, ecological economics, bio-physical economics, behavioral economics, political science, and evolutionary systems. The needed new synthesis should be capable of incorporating many of the findings from these fields of research.

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## **New and Appropriate Economics for the 21<sup>st</sup> Century: A Survey of Critical Books, 1978-2013**

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### **Abstract**

*Economics is an important construct explaining human wealth and well-being. Many economic ideas of the industrial era, however, are not appropriate to 21<sup>st</sup> century economies, where human and natural capital are increasingly valued, and simplistic assessments of wealth, national product, growth, and human happiness are increasingly questioned due to bad economic ideas in high places. To cope with growing complexity, uncertainty, and concern for sustainability, many critical books have been published, especially over the past 35 years. This “frontier frame” seeks to outline these views in a compact format of six categories: General Critiques of deficient economic thought, Ecological Economics, Scientific and Global Organizations (such as the OECD and UN), Textbooks Supporting a Broader View, Alternative Labels (such as Heterodox and Post-Keynesian), and a seven-point agenda of needed actions to accelerate learning about better ideas for economic policy. An Appendix briefly describes ten organizations promoting new economics.*

### **The Problem of Outmoded Economics**

“Economics” is an important construct, having to do with the production and distribution of wealth, human well-being and welfare. Despite disclaimers, it is inexorably tied to ideology and values—political ideas about the good society and how to promote it. Some economists describe their efforts as “scientific,” but this is merely a strategy to legitimate their work and their assumptions, while excluding other economic thinking that is deemed less “rigorous,” even if broader and more relevant.

Economics is often considered as a “social science,” but the discipline does not behave as a science, where competing views are seriously debated, and practitioners are truth-seekers above all, open-minded to new perspectives and paradigms. Curiously, alternative views of what economics is and ought to be are highly fragmented and seldom debated. The purpose of this “frontier frame” is to display the growing litera-

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*“Alternative views of what economics is and ought to be are highly fragmented and seldom debated.”*

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ture of alternatives, so as to encourage more discussion, debate, and integration. A new and appropriate economics construct is certainly one of the “evolutionary ideas that can spur our collective progress” (*Cadmus* Vision Statement) and, arguably, the keystone construct. But how do we decide on what it should be?

The economics of the industrial era and the 20<sup>th</sup> century is not appropriate to the 21<sup>st</sup> century service economies, where human capital and natural capital are—and should be—increasingly valued, and estimates of “wealth”, national product, and human happiness and satisfaction are increasingly questioned. On the negative side, the world economy and the world environment have been gravely damaged by bad economic ideas in high places, especially simplistic and idealized “free market” economics that brought on the ruinous Great Recession of recent years, and equally simplistic measures of Gross Domestic Product that omit many fundamental components of wealth, as well as activities such as pollution that diminish wealth.

Outmoded paradigms need to be replaced by an economics appropriate to 21<sup>st</sup> century conditions of climate change, environmental crises, scarce financial and natural resources, burgeoning technology (for better *and* worse), globalization, large multinational enterprises, an aging-yet-still-expanding population with rising expectations and frustrations, and growing complexity, uncertainty, and concern for sustainability. Transition appears to be slowly underway, yet the dead ideas of “zombie economics” (see Quiggan, below) continue to prevail. This essay seeks to hasten the transition by pointing to the growing flood of critiques, and who wrote what and when.

Titles from the 2009-2012 period have been extracted from my Global Foresight Books website (where one can access longer abstracts), while titles from the 1980-2008 period are selected from *Future Survey*, a monthly publication of the World Future Society, that I founded and edited. They are arranged in six overlapping categories. An Appendix lists organizations supporting new economics, many of them connected with books cited here.

1. General Critiques
2. Ecological Economics
3. Scientific and Global Organizations (NRC, World Bank, OECD, UN)
4. Textbooks Supporting a Broader View
5. Alternative Labels: Heterodox, Post-Keynesian, etc.
6. What Must Really Be Done

#### APPENDIX : Ten Organizations Promoting New Economics

Items within each category are generally arranged from broad to specific in focus, and recent to not-so-recent. I have seen many of these books, but information on many others is from publisher catalogs. This listing should be seen as provisional, and an invitation to a more thorough treatment of all titles considered here, as well as appropriate titles that have been overlooked. An asterisk (\*) indicates titles that appear to be especially important.

## 1. GENERAL CRITIQUES

It is difficult to identify one “knock-‘em-dead” book that appears to stand out above all

others. Each has some contribution to make. **The Skeptical Economist: Revealing the Ethics Inside Economics** by Jonathan Aldred of Cambridge University (Earthscan, Nov 2010/288p) discusses views about how we ought to live and what we value, and questions the ethical foundations of economics. **Debunking Economics: The Naked Emperor Dethroned** by Steve Keen of University of Western Sydney (Zed Books, revised edition, Sept 2011/544p; [www.debunkingeconomics.com](http://www.debunkingeconomics.com)) considers the many critiques of neoclassical theory, seen as “a degenerative research program” leading to a belt of hypotheses that shield core beliefs from critics. **The Puzzle of Modern Economics: Science or Ideology** by Roger E. Backhouse of University of Birmingham (Cambridge University Press, Aug 2010/216p) describes how economists have tried to make their subject scientific, and the pace of dissent within the discipline. **Reassessing the Paradigm of Economics: Bringing Positive Economics Back into the Normative Framework** by Valeria Mosini of the London School of Economics (Routledge, July 2011/176p) questions neoliberal doctrine, as well as attempts to create scientific status, and calls for reformulating 21<sup>st</sup> century economics in an explicitly-recognized normative framework. Also see **The End of Value-Free Economics** edited by Hilary Putnam of Harvard University and Vivian Walsh of Muhlenberg College (Routledge, Nov 2011/240p). **Economics of Good and Evil: The Quest for Economic Meaning from Gilgamesh to Wall Street** by Czech economist Tomáš Sedláček (Oxford University Press, May 2011/384p) questions the touting of economics as a science, and views it merely as a parable to grasp the world around us; ultimately, it is about good and evil.

**The Delusions of Economics: The Misguided Certainties of a Hazardous Science** by Gilbert Rist of the Graduate Institute of International and Development Studies in Geneva (Zed Books, Nov 2011/224p) examines the biases and quasi-religious beliefs that led to constructing economics as a “science.” **Gross Domestic Problem: The Politics Behind the World’s Most Powerful Number** by Lorenzo Fioramonti of the University of Pretoria (Zed Books, Jan 2013/208p) addresses the global quest to dethrone the GDP measure and changes from below. **\*Economics after the Crisis: Objectives and Means** by Adair Turner, Chair of the UK Financial Services Authority (MIT Press, April 2011, 128p) argues that the faults of theory and policy that led to the recent crisis resulted from simplistic beliefs about the objectives and means of economic activity, and assumptions about inequality as inevitable and necessary. **\*The Assumptions Economists Make** by Jonathan Schlefer of the Harvard Business School (Harvard University Press, March 2012, 296p) also views economists as largely accountable for the financial crisis and income inequality, due to blind faith in the invisible hand of unregulated enterprise. **\*Zombie Economics: How Dead Ideas Still Walk among Us** by John Quiggan of University of Queensland (Princeton University Press, Oct 2010, 216p) lays bare the many assumptions behind market liberalism and dead ideas such as “trickle-down economics,” and asks how we might kill these zombie ideas once and for all. The new paperback edition (Princeton University Press, May 2012, 248p) adds a chapter on the re-emergence of questionable pre-Keynesian ideas about austerity and balanced budgets as a response to the recession.

**The Economic Crisis and the Crisis in Economics** (Institute for New Economic Thinking, April 2010; see APPENDIX on Organizations, #2) assembles proceedings of the inaugural conference of INET held at King’s College/Cambridge, where Keynes did his thinking in the 1930s. Topics include theory to guide reform and restructuring, a new global

financial architecture, consequences of inequality, and what government can and will do. **The New Economics: A Bigger Picture** by David Boyle and Andrew Simms of the New Economics Foundation in London (Earthscan, Oct 2009, 192p; see APPENDIX #9) points to a world driven by economic assumptions that no longer work, and boosts “new economics” approaches that value real wealth, put people and planet first, and reflect full costs in pricing. Similarly, **The Economics of Enough: How to Run the Economy as if the Future Matters** by Diane Coyle of University of Manchester (Princeton University Press, March 2011/304p) argues that the world’s leading economies face many crises and share “a reckless disregard for the future,” and lays out steps to create a sustainable economy. **\*Rapport de la Commission sur la mesure des performances économiques et du progrès social** by Joseph Stiglitz, Amartya Sen, and Jean-Paul Fitoussi (Ministere de l’Economie, Sept 2009/324p) considers quality of life, sustainable development, and the need for new indicators of wealth and progress. **Right Relationship: Building a Whole Earth Economy** by Peter G. Brown of McGill University and Geoffrey Garver of the Quaker Institute for the Future in Montreal (Berrett-Koehler, Feb 2009/216p; foreword by Thomas E. Lovejoy) exposes dangerous assumptions and uses the core Quaker principle of “right relationship” to aid the common good as foundation for a new economic model. **The End of Progress: How Modern Economics Has Failed Us** by Singapore-based economist Graeme P. Maxton (Wiley, 2011/226p) asserts that “our species is moving backwards” as we destroy more than we build, “a major cause of our problems is modern economic thinking,” our financial system is broken, we will become financially poorer and less healthy, and many changes are needed. **Beyond the Financial Crisis: The Oxford Scenarios** by Angela Wilkinson of University of Oxford (Said Business School and James Martin 21<sup>st</sup> Century School, March 2010/81p; [www.sbs.oxford.edu/financial-scenarios](http://www.sbs.oxford.edu/financial-scenarios)) describes the recent crisis as caused by “socially constructed ignorance” of standard economics, and offers two scenarios of “Growth” (business as usual) and “Health” (coping with complexity and pursuing sustainability as opportunity). **The Restructuring of Capitalism in Our Time** by Marxist economist William K. Tabb of CUNY-Queens College (Columbia University Press, Jan 2012/352p) questions the shift to financialization and calls for a social structure of accumulation that values economic justice over profit and establishes an inclusive, sustainable growth model.

All of the above-mentioned books have been energized by the Great Recession that began in 2008. But critiques of economic thinking go back several decades. In the post-2000 period, **The Meaning of the 21<sup>st</sup> Century: A Vital Blueprint for Ensuring Our Future** by James Martin (Riverhead/Penguin, 2006/400p) questions perverse subsidies and the false accounting of the GDP measure that ignores natural capital. **Capitalism as if the World Matters** by Jonathon Porritt of the UK Forum for the Future and the UK Sustainable Development Commission (Earthscan, Dec 2005) attacks the GDP measure and proposes a “Five Capitals Framework” that considers natural capital, human capital, social capital, manufactured capital, and financial capital. In **The Real Wealth of Nations: Creating a Caring Economics** (Berrett-Koehler, 2007/318p), Riane Eisler insists on six elements in any economic model: the market economy, the illegal economy, household production, unpaid community work, government, and the natural economy. Based on Eisler’s thinking, **The State of Society: Measuring Economic Success and Human Well-Being** by Erwin de Leon and Elizabeth T. Boris of the Urban Institute (UI/CIP, May 2010/81p; [www.urban.org/publications/412101.html](http://www.urban.org/publications/412101.html)) offers a broad range of measures that go beyond GDP, with 79 indicators



in 14 categories of well-being. **Economics for Humans** by Julie A. Nelson of Tufts University (University of Chicago Press, 2006/154p) questions the biased beliefs of academic economics, which holds mathematical sophistication in high regard while issues of human need and caring are considered “non-rigorous.” **A Guide to What’s Wrong with Economics** edited by Edward Fullbrook of the University of the West of England (Anthem Press, 2004/323p) pillories micro nonsense, macro nonsense, ethical voids, misuse of mathematics, and neoclassical economics as ideology (shedding light on an ever-smaller proportion of economic reality), while advocating ecological economics. Fullbrook went on to edit **Real-World Economics: A Post-Autistic Economics Reader** (Anthem, 2007) and **Pluralist Economics** (Zed Books, 2008), to edit the *Real World Economics Review*, and to found the World Economics Association in 2011 (see APPENDIX #1).

Several outstanding books were published in the 1990s. **\*Turning Point: An End to the Growth Paradigm** by futurist Robert U. Ayres of INSEAD (St. Martin’s Press, 1998) expresses “deep misgivings” about economic growth as currently defined and measured, world trade as an instrument to achieve growth, irrational belief in the free market, econometric models as “very sophisticated trend extrapolation machines,” and economic mismanagement due to flaws in theory. **\*The Genuine Progress Indicator: Summary of Data and Methodology** by Clifford Cobb, Ted Halstead, and Jonathan Rowe (Redefining Progress, 1995; brief version as *Atlantic Monthly* Cover Feature, Oct 1995, pp59-78) critiques the GDP measure for ignoring contributions of families, communities, and the environment (much of what economists call “growth” is really fixing blunders and social decay from the past), and proposes the GPI as a measure of “honest national accounting” expanding on the Index of Sustainable Economic Welfare proposed by Herman Daly and John B. Cobb Jr. Also see **The Green National Product: A Proposed Index of Sustainable Economic Welfare** by Clifford W. Cobb and John B. Cobb Jr (University Press of America, 1994/285p). **For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future** by Herman Daly of the University of Maryland and John B. Cobb of the Claremont Graduate School (Beacon Press, 2<sup>nd</sup> edition, March 1994/534p), first published in 1989, critiques the failings of economics and proposes a real-world approach to the economy, including a restoration of honesty to the function of money in the economic system. **The Death of Economics** by Paul Ormerod of *The Economist* (Faber and Faber, 1994; St. Martin’s Press, 1995) views the orthodoxy of conventional economics as “trapped in an idealized, mechanistic view of the world” and questions measuring prosperity by GDP, mechanistic modeling, and competitive general equilibrium. **The End of Economics? Ethics and the Disorder of Progress** by Cristovam Buarque of the University of Brasilia (Zed Books, 1993) calls for ethics in economics, valuing nature and culture, and rethinking progress. **The Misunderstood Economy: What Counts and How to Count It** by Robert Eisner of Northwestern University, a past president of the AEA (Harvard Business School Press, 1994), discusses failures of the GDP measure, the full value of government output, environmental deterioration, intergenerational transfers, and measure of human suffering and well-being. **Steady-State Economics** by Herman E. Daly (Island Press, 2<sup>nd</sup> edition, 1991), first published in 1977, criticizes the “more is better” growth paradigm, evasion of ethical issues, and the failure to seriously consider “management of the household.” **Real-Life Economics: Understanding Wealth Creation** edited by Paul Ekins of University of London and Manfred Max Neef of the Development Alternatives Center in Santiago (Routledge,

1992/460p) faults mainstream economics for failing to provide a coherent explanation of reality, and proposes a four-capital model of wealth creation and humanistic economics. The 37 essays were sponsored by London's Living Economy Network.

The 1980s also saw a number of critiques. **The Living Economy: A New Economics in the Making** edited by Paul Ekins (Routledge & Kegan Paul, 1986) provides papers from 1984/1985 conferences of The Other Economic Summit on the assumptions of GDP and human-scale economics. Contributors include James Robertson, Herman Daly, Hazel Henderson, Johan Galtung, John McKnight, and Willis Harman. **Future Wealth** by British economist/futurist James Robertson (Cassell, 1989/178p) questions the "primitive assumptions" of conventional economics and proposes principles for a new economic order. Earlier in the decade, **\*Dialogue on Wealth and Welfare: An Alternative View of World Capital Formation—a Report to the Club of Rome** by Orio Giarini of the Graduate Institute of European Studies in Geneva (Pergamon, 1980/386p) critiqued the GNP measure for including destructive activity and excluding non-monetarized production, insisting that the natural environment must be recognized in economic terms. A follow-on report to the Club of Rome, **The Limits to Certainty** by Orio Giarini and Walter Stahel (Kluwer Academic, 1993; preface by Ilya Prigogine) enumerates several ways in which the predominance of services alters the fundamental notions of economic value. Both books are summarized in "The Wealth of Nations Revisited" by Orio Giarini, Garry Jacobs, Bernard Lietaer, and Ivo Slaus (*Cadmus*, 1:1, Oct 2010, pp 9-27). Also in the same issue, see "Indicators of Economic Progress: The Power of Measurement and Human Welfare" by Garry Jacobs and Ivo Slaus (pp 53-113), a lengthy summation of alternative economic indices such as ISEW and GPI, and a proposed Human Economic Welfare Index (HEWI).

Also in the 1980s, **\*The Moral Dimension: Toward a New Economics** by wide-ranging sociologist Amitai Etzioni of GWU (Free Press, 1988; see APPENDIX #8) criticizes the paradigm of neoclassical economics for overemphasis on free-standing selfish individuals. **Humanistic Economics: The New Challenge** by Mark A. Lutz of the University of Maine and Kenneth Lux (Bootstrap Press/ITDG, 1988; foreword by Amitai Etzioni), an update of **The Challenge of Humanistic Economics** (Benjamin/Cummings, 1979), critiques the one-dimensional "rational man" of mainstream economics and builds on the universality of human needs for basic material needs, meaningful work, and dignity. Of related interest is **Human Economy: A Bibliography** compiled by John Applegath of the long-defunct Human Economy Center in Amherst MA (HEC, 1981/77p), with 50 annotated items and some 950 unannotated items on critiques of economics, wealth distribution, self-sufficiency, ecology/environment, etc.

**\*Stabilizing an Unstable Economy** by widely-respected economist Hyman P. Minsky of Washington University (Yale University Press, 1986/353p; a Twentieth Century Fund Report) takes a "post-Keynesian view" that the standard body of economic theory is seriously flawed; despite its elegant logical structure, it fails to explain how financial crises emerge. **\*Dangerous Currents: The State of Economics** by Lester C. Thurow of MIT (Random House, 1983) cites the intellectual disarray of economists, lack of shared ideas, unsupported assertions, and ever-narrower interpretations as mathematical sophistication increases; transition to another mode of thought is difficult, however, since it involves "abandoning a beautiful sailing ship." **Economics and Policymaking: The Tragic Illusion** by political

scientist Eugene J. Meehan of University of Missouri-St. Louis (Greenwood Press, 1982) notes that economists rarely examine their basic assumptions and their reward system strongly supports the status quo. \***The Politics of the Solar Age: Alternatives to Economics** by the remarkable auto-didact Hazel Henderson (Anchor Press/Doubleday, 1981, 433p) offers a spirited collection of essays aimed at a “complete restructuring of economics” and its statistical illusions; topics include the end of “flat-earth economics,” failures of Keynesianism and post-Keynesians, economists as apologists for late-stage industrial culture, and battles over changing paradigms; it utilizes extensive footnoting and annotations of 46 books on re-doing economic theory. Henderson’s earlier book, **Creating Alternative Futures: The End of Economics** (Berkeley/Windhover, 1978, 403p; foreword by E.F. Schumacher) has essays on economics as “our reigning sophistry,” the vision of a decentralized society, problems with GNP measures ignoring social and environmental costs, and inadequate modeling of “efficiency” criteria. **Managing Growth in the 80’s: Toward a New Economics** by Robert Hamrin (Praeger, 1980), former staff economist of the US Congress Joint Economic Committee, argues for new variables to overhaul old economic models, and a shift to the “economics of quality” and a “total employment economy.”

## 2. ECOLOGICAL ECONOMICS

A parallel stream of critiques focuses largely if not entirely on the neglect of environmental concerns. Several general overviews deserve mention at the outset. \***The Bridge at the End of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability** by James Gustave Speth (Yale University Press, March 2008/295p), former head of the World Resources Institute and Dean of the Yale School of Forestry and Environmental Studies, passionately argues that our market economy operates on “wildly wrong market signals” and lacks correcting mechanisms; advocates real growth that promotes well-being of people and nature (as measured by ISEW), and ecological economics not as the end of the world but the beginning of a new one. \***Natural Capitalism: The Next Industrial Revolution** by Paul Hawken, Amory B. Lovins, and L. Hunter Lovins (10<sup>th</sup> Anniversary Edition, Earthscan, June 2010/416p) criticizes regulatory failures and “free market fantasies” that assume perfect information; advocates radical resource productivity, biomimicry, and saving energy as less costly than buying it. \***State of the World 2008: Innovations for a Sustainable Economy** edited by Gary Gardner and Thomas Prugh of the Worldwatch Institute (W.W. Norton, Jan 2008) calls for reforming economics in seven areas: shifting focus from growth to well-being, making prices tell the ecological truth, accounting for nature’s contribution, applying the precautionary principle, adjusting economic scale, valuing women’s work, and revitalizing commons management. **Prosperity Without Growth: Economics for a Finite Planet** by Tim Jackson of University of Surrey (Earthscan, Dec 2009/264p) updates Jackson’s 2003 **Redefining Prosperity** report to the UK Sustainable Development Commission, proposing “a different kind of macroeconomics” that does not rely on ever-growing consumption and growth, where economic activity remains within ecological scale.

**A New Blueprint for a Green Economy** by Edward Barbier of the University of Wyoming and Anil Markandya of the Basque Center for Climate Change (Earthscan/Routledge, Sept 2012/192p), updates the original 1989 version, urging progress in three key areas: valuing the environment, accounting for the environment, and incentives for environmental

improvement. **Capitalizing on Nature: Ecosystems as Natural Assets** by Edward Barbier (Cambridge University Press, Oct 2011/336p) addresses key issues in the unfolding “Age of Ecological Scarcity,” the central challenge of environmental economics. **Our Choice: A Plan to Solve the Climate Crisis** by Al Gore (Rodale Press, Nov 2009/416p) synthesizes 30 “Solutions Summits” convened by the former US Vice President, including changing the GDP system of national accounts (never intended as a measure of well-being when created in the 1930s) and the way we think about the true cost of carbon (several trillion dollars of subprime carbon assets depend for their valuation on a zero price for carbon emissions).

**Economic Thought and U.S. Climate Change Policy** edited by David M. Driesen of the Syracuse University College of Law (MIT Press, June 2010/356p) questions the unyielding neoliberal stance that embraces free markets, the many errors of cost-benefit analysis of climate change, and overestimates of the cost of abating pollution and reducing greenhouse gases. **\*The Economics of Climate Change: The Stern Review** by Sir Nicholas Stern (Cambridge University Press, Jan 2007/712p), describes climate change as “the greatest market failure the world has ever seen,” and urges policy to promote strong market signals. **Twenty-First Century Macroeconomics: Responding to the Climate Challenge** edited by Jonathan M. Harris and Neva R. Goodwin of Tufts University (Edward Elgar, June 2009/352p) challenges conventional assumptions about economic growth and urges an economics that accounts for environmental and generational impacts of climate change, and reorienting investment to new economic development paths.

**The Economics of Biodiversity: Ecological and Economic Foundations** edited by Pushpam Kumar of University of Liverpool (Earthscan, Nov 2010/400p) describes The Economics of Ecosystems and Biodiversity Project (TEEB) set up in 2007 and led by the UN Environmental Programme to globally assess the economic aspects of ecosystem services provided by nature. This resulted in **The Economics of Ecosystems and Biodiversity: TEEB for Local and Regional Policymakers** (UNEP, Jan 2011/208p) and **The Economics of Ecosystems and Biodiversity in National and International Policymaking** (UNEP, June 2011/494p), which highlight the growing costs of biodiversity loss and ecosystem degradation, the benefits of investing in natural capital, and the need to integrate the values of nature across policy sectors. **Biodiversity and Ecosystem Insecurity: A Planet in Peril** by Ahmed Djoghlaif and Felix Dodds (Routledge, June 2011) emphasizes the need to place a realistic value on nature and the services that ecosystems provide. **Valuing the Environment: Economics for a Sustainable Future** by David Glover of the International Development Research Centre in Ottawa (IDRC, May 2010/120p) shows how poorly functioning markets, incomplete property rights, and misguided policies are harmful to the environment and future generations. **Ecosystem Services from Agriculture and Agroforestry: Measurement and Payment** edited by Bruno Rapidel *et al.* (Earthscan, May 2011/320p) shows viable mechanisms to compensate agricultural systems for the environmental services they provide. **Valuing Ecosystem Services: The Case of Multi-Functional Wetlands** by R. Kerry Turner *et al.* (Earthscan, May 2011, 23p) underscores the importance of ecosystem services valuation from a policy and project appraisal perspective. **The Law and Policy of Ecosystem Services** by J.B. Ruhl *et al.* (Island Press, 2007/345p) argues that natural capital is no longer generally in surplus, so the economic playing field must be adjusted into an ecological-economic playing field, with government regulating natural capital and viewing

ecosystem services as public goods. Similarly, **The New Economy of Nature: The Quest to Make Conservation Profitable** by Gretchen C. Daily of Stanford University and Katherine Ellison (Island Press, 2002/260p) argues that it was once reasonable to think of ecosystem services as free when natural capital was abundant and human activities limited; today, when nature everywhere is under siege, externalities must be considered. **You Can't Eat GNP: Economics As If Ecology Mattered** by Eric A. Davidson of Woods Hole Research Center (Perseus Books, 2000/247p) seeks to displace outmoded GNP thinking that ignores the value of natural resources.

**The Economics of Nature and the Nature of Economics** edited by Cutler J. Cleveland, David I. Stern, and Robert Costanza (Edward Elgar, 2001/293p) discusses the evolution of ecological economics, green national accounting, a green GNP, the need for a new growth paradigm, and formation of ISEE in 1987 (see APPENDIX #7). **An Introduction to Ecological Economics** by Robert Costanza, John Cumberland, Herman Daly, Robert Goodland, and Richard Norgaard (St. Lucie Press/ISEE, 1997/275p) covers the historical growth of economy and ecology, principles of ecological economics, institutions, and instruments. **Environmental Economics** by Clem Tisdell of University of Queensland (Edward Elgar, 1993) considers externalities, pollution control policies, cost-benefit analysis, intergenerational economic welfare, risk-taking, etc. **Economic Values and the Natural World** by David W. Pearce of University College London (MIT Press, 1993/129p) considers national priorities, modifying GNP, and applying economic valuation to project appraisal. **World Without End: Economics, Environment, and Sustainable Development** by David W. Pearce and Jeremy J. Warford of the World Bank (Oxford University Press/World Bank, 1993/440p) covers environmental economics, choice of discount rate, evaluating environmental damage and benefits, carrying capacity, market failure, pricing for cost recovery, etc. **\*Choosing a Sustainable Future: The Report of the National Commission on the Environment** chaired by Russell E. Train (Island Press, 1993) focuses on the goal of sustainable development as the primary goal of economic policy, an end to price-distorting subsidies, revising GNP, and taxing environmentally harmful activities. **The Natural Wealth of Nations: Harnessing the Market for the Environment** by David Malin Roodman of the Worldwatch Institute (W.W. Norton, 1998/303p) focuses on prices that do not tell the environmental truth, shifting taxation to activities that hurt the environment, and trading of permits for pollution and resource depletion.

Still more excellent books from the 1990s deserve consideration, especially because ecological economics and environmentalism *appear* to have recently lost their momentum (perhaps eclipsed by the Great Recession). **\*Taking Nature into Account: Towards a Sustainable National Income. A Report to the Club of Rome** edited by Wouter van Dieren of the Institute for Environment and Systems Analysis in Netherlands (Copernicus/Springer-Verlag, 1995/332p) argues that economics is not a science but a set of theories and choices; we must rid our economies of hypocrisy, the main hypocrisy being the System of National Accounts employed for nearly half a century. **Real Value for Nature: An Overview of Global Efforts to Achieve True Measures of Economic Progress** by Fulai Sheng of WWF (World Wildlife Federation, 1995/158p) critiques the UN System of National Accounts for failing to consider natural resources and environmental services, while including costs of reparative measures. **Investing in Natural Capital: The Ecological Economics Approach**

**to Sustainability** edited by Ann-Mari Jansson, Monica Hammer, Carl Folke, and Robert Costanza (Island Press, 1994/504p), derived from the 1992 ISEE second conference in Stockholm (see APPENDIX #7), considers a natural capital depletion tax, investing in cultural capital for sustainable use of natural capital, mitigation strategies for sea-level rise, etc. **Ecological Economics: The Science and Management of Sustainability** edited by Robert Costanza (Columbia University Press, 1991, 525p), derived from the 1990 ISEE first meeting in Washington (see APPENDIX #7), includes essays by Kenneth Boulding, Herman E. Daly, Garrett Hardin, Mary E. Clark, and Juan Martinez-Alier. **\*The Gaia Atlas of Green Economics** by Paul Ekins *et al.* (Anchor Books/Doubleday, 1992; foreword by Robert Heilbroner) urges a four-capital model of wealth creation (ecological, human, manufactured, social), economic accounting for the environment, the Adjusted National Product as superior to GNP, creating eco-capital, etc.

### 3. SCIENTIFIC AND GLOBAL ORGANIZATIONS

One important indicator that the above critiques are being accepted, or simply discovered anew, can be found in the adaptation of these ideas by large and influential organizations. (This section can probably be considerably expanded, but a few items suggest what is happening). **\*Beyond the Market: Designing Nonmarket Accounts for the United States** by the National Research Council (National Academies Press, 2005/209p) states that the National Income and Product Accounts constructed for the US in the 1930s omit a large part of the nation's product; high priority should be given to five areas: household production, investments in human capital and formal education, investments in health, government and non-profit sectors providing public goods and services (notably with volunteer labor), and environmental assets and services (value changes in stocks of natural resource and externalities associated with pollution). The World Bank takes an equally radical step forward with **\*The Changing Wealth of Nations: Lessons for Sustainable Development** (World Bank, Oct 2010/270p), which estimates "comprehensive wealth" (including produced, natural, and human/institutional assets) for over 100 countries in 1995, 2000, and 2005.

The frequently overlooked Organization for Economic Co-operation and Development in Paris, arguably the world's largest think tank, issues hundreds of reports each year encouraging "a stronger, cleaner, fairer world economy." Several reports are quite relevant to new economic thinking. **Harnessing Markets for Biodiversity: Towards Conservation and Sustainable Use** (OECD, 2003/137p) provides a conceptual framework for the OECD Environmental Strategy of the First Decade of the 21<sup>st</sup> Century, arguing that the first step requires that economic values be made explicit: once undervalued biodiversity goods and services are valued, rational decisions can be made regarding use or conservation. **Costs of Inaction on Key Environmental Challenges** (OECD, Sept 2008/ 213p) enumerates direct financial costs (spending on health, remediation and restoration, and private defensive measures), indirect costs related to resource depletion and environmental degradation, costs associated with the loss of environmental use (aesthetics, visibility), and costs to biodiversity. **\*Towards Green Growth** (OECD, June 2011/142p; GlobalForesightBooks.org Book of the month, June 2011) is the central report for the OECD Green Growth Strategy ([www.oecd.org/greengrowth](http://www.oecd.org/greengrowth)), a major on-going effort now embracing many related reports and encouraging OECD countries, notably South Korea, to go green. Green growth seeks to foster economic growth while

ensuring that natural assets continue to provide services on which our well-being relies. The strategy “takes into account the full value of natural capital as a factor of production” and promotes market instruments that impact price signals (such as green taxes) and regulatory policies providing incentives for better resource use, energy efficiency, etc. **Towards Green Growth: Monitoring Progress—OECD Indicators** (OECD, May 2011/141p) provides a framework for governments to monitor the natural asset base, the environmental quality of life, resource productivity, and greener management approaches.

The Report of the UN Secretary-General’s High-level Panel on Global Sustainability, **Resilient People, Resilient Planet: A Future Worth Choosing** (UN, 30 Jan 2012/94p; [www.un.org/gsp](http://www.un.org/gsp); GFB Book of the Month, June 2012) provides 56 proposals to empower people, strengthen governance, and promote a sustainable economy. Proposal #27 urges natural resource and externality pricing instruments, long-term incentives for sustainable practices, national and international schemes to pay for ecosystems services (in water use, farming, fisheries, and forestry); #39 advocates a Sustainable Development Index or similar set of indicators by 2014 to measure progress. Even more important, **\*Inclusive Wealth Report 2012: Measuring Progress Toward Sustainability** by the UNU International Human Dimensions Programme on Global Environmental Change (Cambridge University Press, July 2012/336p; [www.ihdp.unu.edu/article/iwr](http://www.ihdp.unu.edu/article/iwr)) introduces the *Inclusive Wealth Index* (IWI) that combines measures of physical capital, human capital, and natural capital, and assesses 20 major countries, finding that 14 of them had positive IWI growth rates in the 1990–2008 period (led by China at 2.1% and Germany at 1.8%), and six nations had negative IWI growth rates, primarily due to high population growth. The broader IWI explicitly moves beyond the GDP measure, although many critics may still find it inadequate in several respects.

#### 4. TEXTBOOKS SUPPORTING A BROADER VIEW

For students seeking a broader and more “real-world” view, as well as teachers who seek to assist their learning, at least seven textbooks are available.

**\*Macroeconomics in Context** by Neva Goodwin, Julie A. Nelson, and Jonathan Harris of the Tufts University Global Development and Environment Institute (M.E. Sharpe, 2009/437p) covers both standard topics and the broader “contextual economics” approach addressing such topics as macroeconomic goals (decent living standards, security, sustainability), macroeconomics for the 21<sup>st</sup> century and in global context, the three spheres of economic activity (business, public, household/community), and challenges for the 21<sup>st</sup> century (human development, sustainability, discounting the future). **\*Microeconomics in Context** by Neva Goodwin, Julie A. Nelson, Frank Ackerman, and Thomas Weisskopf (M.E. Sharpe, 2<sup>nd</sup> Edition, 2009/522p) focuses on human well-being and the broader context of economic activity including the five forms of capital (natural, manufactured, human, social, and financial). **Microeconomic Theory Old and New: A Student’s Guide** by ISEE president John Gowdy of RPI (Stanford University Press, Jan 2010/208p; see APPENDIX #7) presents contemporary extensions of the core model of economics (Walrasian general equilibrium theory), as well as emerging alternatives. **The Economics Anti-Textbook: A Guide to Critical Thinking** by Rod Hill and Tony Myatt of the University of New Brunswick (Zed Books, May 2010/224p) might also be considered as a textbook.

Three textbooks are explicitly designated as “ecological economics.” **Ecological Economics: Principles and Applications** by Herman F. Daly of University of Maryland and Joshua Farley of the University of Vermont Gund Institute (Island Press, 2<sup>nd</sup> edition, Oct 2009/488p; see APPENDIX #6), first published in 2004, views Ecological Economics as a “transdiscipline,” discussing open and closed systems, types of resources, market failures, GNP vs. ISEW, redefining efficiency, sustainable scale, pricing and valuing non-market goods and services, and the importance of public goods. **Principles of Environmental Economics and Sustainability: An Integrated Economic and Ecological Approach** by Ahmed Hussen of Kalamazoo College (Routledge, 3<sup>rd</sup> edition, April 2013/480p) seeks to reconcile environmental and ecological economics. The first green textbook, however, was issued nearly twenty years ago by three UK professors! **Environmental Economics: An Elementary Introduction** by R. Kerry Turner, David Pearce, and Ian Bateman (Johns Hopkins University Press, 1993/328p) covers sustainable development, causes of environmental degradation (how markets and governments fail), cost-benefit thinking, valuing nature, coping with uncertainty, economic control of the environment, biodiversity, the ozone layer, and climate change.

## 5. ALTERNATIVE LABELS: HETERODOX, POST-KEYNESIAN, ETC.

The above-mentioned textbooks promote “contextual economics” and “ecological economics.” A possible problem in the evolution to new and appropriate economics is the profusion of labels. Some examples follow. **Post Keynesian and Ecological Economics: Confronting Environmental Issues** edited by Richard P.F. Holt of Southern Oregon University *et al.* (Edward Elgar, Jan 2010/296p) argues that mainstream economics is limited in its ability to analyze and fashion adequate policy and proposes a transdisciplinary approach that focuses on complexity, bounded rationality, and socio-economic dynamics. **\*In Defense of Post-Keynesian and Heterodox Economics: Responses to their Critics** edited by Frederic S. Lee of UMKC (see APPENDIX #3) and Marc Lavoie of University of Ottawa (Routledge, Aug 2012/256p) discusses inter-paradigm cooperation, theoretical convergence, brands of economics, the Trojan Horse of pluralism, and how to move forward. **A Primer on Heterodox Economics** by Ingrid Rima of Temple University (Routledge, July 2012/256p) charts the development of various schools of thought such as post-autistic economics, evolutionary institutionalism, post-Keynesian economics, German-Austrian economics, and revival of political economy. **Toward an Integrated Paradigm in Heterodox Economics: Alternative Approaches to the Current Eco-Social Crisis** edited by Julien-Francois Gerber of Harvard University and Rolf Steppacher (Palgrave Macmillan, Jan 2012/256p) explores new economic directions and paradigms; contributors include Herman Daly and Juan Martinez-Alier. **Interdisciplinary Economics** edited by Wilfred Dolfsma of Rijksuniversiteit Groningen and Stefan Kesting of Auckland University of Technology (Routledge, March 2012/288p) pays homage to the late Kenneth Boulding for stretching the boundaries of different fields in the social sciences. **Beyond Reductionism: A Passion for Interdisciplinarity** edited by Katharine Farrell of University of Aarhus *et al.* (Routledge, April 2012/288p) assesses ecological economics, eco-feminism, and methodological pluralism. Contributors include Richard Norgaard, Juan Martinez-Alier, Mary E. Clark, and Vandana Shiva.

Much of this is prefigured by **\*The Changing Face of Economics: Conversations with Cutting Edge Economists** by David Colander of Middlebury College *et al.* (University of



Michigan Press, 2004/358p), which distinguishes between mainstream economics and heterodox economics, identifies complexity as a defining factor at the edge of economics, and concludes that economics is moving from strict adherence to the holy trinity of rationality, greed and equilibrium to a more eclectic trinity of purposeful behavior, enlightened self-interest and sustainability. Much earlier, **The Methodology of Economic Thought** edited by Warren J. Samuels of Michigan State University (Transaction Books, 1978) provided critical essays by heterodox economists. **Evolutionary Economics** by former AEA president Kenneth E. Boulding of the University of Colorado (Sage, 1978) argues that EE, in contrast to “mainline economics,” embraces complexity and offers a “mutation that would strengthen the whole ecosystem of economic thought and make it richer and more varied,” while opening up “the possibility for very large improvements on public policy based on more realistic appraisals.”

Finally, mention should be made of **Socio-Economics: Toward a New Synthesis** edited by wide-ranging sociologist Amitai Etzioni of GWU and Paul R. Lawrence of the Harvard Business School (M.E. Sharpe, 1991/359p), with papers from a 1989 conference at HBS leading to formation of SASE (see APPENDIX #8), which promotes a more complex image of economic reality. **Morality, Rationality, and Efficiency: New perspectives on Socio-Economics** edited by Richard M. Coughlin of the University of New Mexico (M.E. Sharpe, 1991/411p) presents papers from the second SASE conference in 1990, criticizing neoclassical economics for neglecting morality. **If Women Counted: A New Feminist Economics** by Marilyn Waring of the NZ Parliament (Harper & Row, 1988/386p) complains that women’s work is counted out of the labor force, whereas non-productive military spending is counted; also considers the value of caring services and flaws of the GNP measure.

“Happiness Economics” has yet to be used as a label, but this is an important new angle of thinking that serves to quietly undermine notions of GNP and its growth. **The Pursuit of Happiness: Toward an Economy of Well-Being** by Carol Graham of Brookings Institution (Brookings Institution Press, June 2011/160p) argues that well-being is broader than income, and many efforts are underway to develop well-being metrics as complements to traditional income and GDP data. [This complements the earlier Report of the Brookings Task Force on Intangibles, **Unseen Wealth** by Margaret M. Blair and Steven M.J. Wallman (Brookings, 2001/124p), which focuses on intangible factors such as human capital as most important to societal wealth.] **Happiness: A Revolution in Economics** by Bruno S. Frey of University of Zurich (MIT Press, 2008; pb. edition Sept 2010/256p) describes how government can provide the conditions for well-being based on happiness research, which has “the potential to change economics substantially” by measuring subjective well-being, how humans value goods and services, and non-material values. **The Politics of Happiness: What Government Can Learn From the New Research on Well-Being** by former Harvard University president Derek Bok (Princeton University Press, March 2010/262p) summarizes happiness research that challenges conventional wisdom about what people want, e.g. economic growth and higher income. His spouse, Sissela Bok, also addresses this topic in **Exploring Happiness: From Aristotle to Brain Science** (Yale University Press, Aug 2010/208p). Notably, this argument was also made some two decades ago in **The Market Experience** by Robert E. Lane of Yale University (Cambridge University Press, 1991/630p), a past president of the American Political Science Association, who asserted that the market should be judged

by satisfactions people receive, rather than efficiency in producing goods and services, thus shifting the axis of debate toward how economic life contributes toward happiness or human development.

In sum, all of these books seek a broader and more appropriate view of economics. But there are many overlapping ways to construct such a worldview. Contextual Economics, Ecological Economics, Post-Keynesian Economics, Heterodox Economics, Interdisciplinary Economics, Real-World Economics, Evolutionary Economics, Socio-Economics, Feminist Economics and the study of happiness all offer valuable perspectives. Can these ten perspectives unite to overcome the hold of simplistic Zombie Economics?

## 6. WHAT IS REALLY NEEDED

The complaint that we need more good ideas is seriously incomplete and misleading. As amply illustrated above, there are plenty of sensible and thoughtful ideas about new and appropriate economics, as well as other important global issues. This plethora of constructive thinking includes both recently published books (not to mention articles) as well as those published two to three decades ago. Do economists and policymakers know of these books? Read these books? And substantially change their thinking as a result? One cannot help but sense that there is something very wrong. Surely, yet another book, article, or journal is not what is needed. Rather, what is really needed are actions in seven areas, none of which is sufficient on its own.

- 1) **A Clearinghouse for New Economics:** Ongoing collection and assessment of books and articles on new economics are needed, in order to accelerate learning. A global clearinghouse is roughly outlined by this biblioessay. It should provide far more extensive abstracts, indexing of ideas (i.e. the many definitions of wealth) and selection of best books—both popular and scholarly—by an individual or a panel to counter the glut of titles. The harsh but unspoken fact is that these titles compete with each other, but some are surely more valuable than others, while all should be recorded.
- 2) **The Summation:** An ongoing summary statement must bring together the best of these ideas about post-GDP measurement and the varieties of wealth that should be considered for well-being and sustainability in the 21<sup>st</sup> century. Serious dissenting views can and should be included, but some sort of ongoing provisional consensus is needed, following the lead of the Intergovernmental Panel on Climate Change. Similar to the IPCC, this consensus statement should be made in a variety of formats, including a brief executive summary and one or more popularized versions. The agreement will feature some alternative measurement scheme (ISEW, GPI, or Human Economic Welfare Index (HEWI) as discussed in *Cadmus* 1:1, 99-113), and efforts should begin to encourage usage initially as a supplemental measure, and eventually as a substitute for GDP. Any new and broader measure will be imperfect and controversial, but still far better than continuing use of GDP/GNP alone. The OECD might be a valuable partner or lead agency in this project.
- 3) **National Champions:** Designated national champions are needed to promote these ideas, as regards national policies. It is clearly inadequate to make only a global statement, although initiatives such as OECD's Green Growth Strategy deserve far

more attention (in the US, this set of relatively mild policy proposals would be considered in 2012 as daring and “radical”).

- 4) **Designing Debates:** In addition to Op-Ed pieces, talk show appearances, and anything else that works to publicize the summary statement and new gross indicator of wealth and progress, considerable attention must be paid to staging serious debates with the proponents of mainstream economics on college campuses, on fair-minded television channels, and in the print media. Debates are needed to overcome the structural problem of academic fragmentation and general inattention to serious issues that have been greatly aggravated in our era of infoglut. There will surely be well-funded plutocratic pushback from those who benefit from the current reigning ideas; this obstacle must be anticipated and somehow dealt with. Fair and thorough debates are difficult to arrange, but perhaps can start in academia, which claims to be open to all ideas.
- 5) **Indicators of New Economic Progress:** This biblioessay suggests by book titles alone that there is growing discontent with industrial era economics, especially after the still-unfolding disruptions of the Great Recession. In an important *New York Times* article five years ago (“In Economics Departments, a Growing Will to Debate Fundamental Assumptions” by Patricia Cohen, 11 July 2007, B6), Frederic S. Lee of the *Heterodox Economics Newsletter* (see APPENDIX #3) is cited as estimating that 5-10% of America’s 15,000 economists are heterodox. Presumably, the number of full or partial apostates is growing after the financial crisis, but by how much? Are there thorough debates in fact, or mere casual exchanges? And what about economists in other countries? A global survey is needed to evaluate economists’ changing allegiances and indicators such as which textbooks are used and how widely, and developments in global organizations and national policies are also needed.
- 6) **Priority Surveys:** As a way to draw attention to the evolutionary need for new and appropriate economics, ongoing surveys are needed among both economists and policymakers as to what is needed most in the years ahead. An exemplary model is provided by “Some Elements of the Next Global Economic System over the Next 20 Years,” Chapter 3 of **2009 State of the Future** by Jerome Glenn, Theodore J. Gordon, and Elizabeth Florescu (Millennium Project, Aug 2009; [www.StateOfTheFuture.org](http://www.StateOfTheFuture.org)), presenting results of an on-line questionnaire with 217 participants from 35 countries rank-ordering economic elements for improving the human condition. The top three elements were ethics as a key in economic exchanges and work relations, new GNP/GDP definitions that include all forms of national wealth, and a small “Tobin tax” on international transactions to support the global commons. Other elements include a redefinition of wealth and a new economic theory that accommodates many new “goods” such as information, new financial rules, a global minimum living wage applied to local conditions, and greatly increased public disclosure of tax havens and secret accounts.

*“Universities are supposed to encourage progress in all areas of thinking and truth-seeking. The possible corruption of scholarly ideals is too important to be ignored.”*

- 7) **Investigative Reporters Addressing Obstacles:** A number of heterodox economists have claimed that many economics departments in major universities lock them out for lack of publications in the “right” journals, which are controlled by mainstream economists. This charge, suggesting a huge scandal of repressed discourse in academia, quite possibly deserves a book-length inquiry by investigative reporters. Universities are supposed to encourage progress in all areas of thinking and truth-seeking. But, in fact, do many economics departments present obstacles to learning and the necessary evolution of new and appropriate economic thought for the 21<sup>st</sup> century? The possible corruption of scholarly ideals is too important to be ignored.

In sum, economics is increasingly a disputed discipline. A trickle of dissent began in the 1960s and early 1970s, e.g., **The Costs of Economic Growth** by Ezra J. Mishan (Praeger, 1967/190p), **The Entropy Law and the Economic Process** by Nicholas Georgescu-Roegen (Harvard University Press, 1971/457p), and **Toward a Steady-State Economy** edited by Herman E. Daly (W.H. Freeman, 1973/332p), which included 1966 essays by Kenneth E. Boulding on “The Economics of the Coming Spaceship Earth” and E.F. Schumacher on “Buddhist Economics.” The trickle became a small stream, arguably around 1978, and is now growing into a flood of justified but largely unanswered criticisms against the outmoded and ruinous conventional wisdoms. “Flood management” is now needed to accelerate the necessary global transition to new and appropriate economic thinking.

Other areas of economics also deserve close scrutiny, notably monetary theory and employment/unemployment. For example, the former is addressed by **Money and Sustainability: The Missing Link. A Report from the Club of Rome-EU Chapter** by Bernard Lietaer *et al.* (Triarchy Press, July 2012/210p); the latter by “Theories and Strategies for Full Employment” by Ashok Natarajan (*Cadmus*, 1:1, Oct 2010, 42-48). These subjects must be dealt with separately, but are no doubt linked to the general rethinking of economics that is now underway.

## APPENDIX: TEN ORGANIZATIONS PROMOTING NEW ECONOMICS

At least ten organizations explicitly promote new and appropriate economics. This appears to be an encouraging development. But, however discomfoting, it is important to ask if they are succeeding in getting good ideas in high places, or simply in creating more publications (however learned and innovative) and fragmentation, at a time when “leadership in thought that leads to action” (the WAAS slogan) is increasingly needed.

Organizations are listed here in reverse chronological order of their founding.

1. **World Economics Association** (2011; [www.worldeconomicsassociation.org](http://www.worldeconomicsassociation.org)): Founded by Edward Fullbrook, editor of the *Real World Economics Review* (2000). Began publication of *World Economic Review*, an open access journal, in Fall 2012; also publishes *Economic Thought*. Claims more than 10,000 members. Membership is free.
2. **Institute for New Economic Thinking** (2009; [www.ineteconomics.org](http://www.ineteconomics.org)): Founding Sponsors: Jim Balsillie of CIGI, William Janeway of Warburg Pincus, and George Soros of Soros Fund Management. INET “was created to broaden and accelerate the development of new economic thinking that can lead to solutions for the great

challenges of the 21<sup>st</sup> century.” The mission is “to nurture a global community of next-generation economic leaders.” Partners with the Oxford Martin School and CIGI (Centre for International Governance Innovation, Canada). Bestows grants of \$25-\$250K.

3. **Association for Heterodox Economics** (1999): Holds annual conferences and publishes *Heterodox Economics Newsletter* (2004; <http://heterodoxnews.com>); founding editor, Frederic S. Lee, University of Missouri-Kansas City. Also publishes *Heterodox Economics Directory* (5<sup>th</sup> edition, Jan 2013). The Heterodox Microeconomics Research Network (HMiRN) was founded in 2011 to promote teaching and research in HM.
4. **Redefining Progress** (1994; [www.rprogress.org](http://www.rprogress.org)): Founded in San Francisco by Ted Halstead; now in Oakland CA as “the nation’s leading public policy think tank dedicated to smart economics.” Seeks to shift public policy “to achieve a sustainable economy, a healthy environment, and a just society.” Introduced the Genuine Progress Indicator in 1995.
5. **International Confederation of Associations for Pluralism in Economics** (1993): ICAPE is a consortium of over 30 groups in economics to maintain diversity and innovation, holding that “each tradition of thought adds something unique and valuable.”
6. **Gund Institute for Ecological Economics** (1991): Founded by Robert Costanza as Institute for Ecological Economics at University of Maryland; moved to University of Vermont in 2002. Promotes research at the interface of ecological, social, and economic systems.
7. **International Society for Ecological Economics** (1989; [www.isecoeco.org](http://www.isecoeco.org)): Founded by Robert Costanza. Publishes *Ecological Economics* journal.
8. **Society for the Advancement of Socio-Economics** (1989; [www.sase.org](http://www.sase.org)): Founded by Amitai Etzioni of GWU. Now headquartered in Paris. Publishes *Socio-Economic Review* to advance “an emerging meta-discipline,” in that economics is “embedded in society, polity, and culture.”
9. **New Economics Foundation** (1986; [www.neweconomics.org](http://www.neweconomics.org)): Established in London by leaders of The Other Economic Summit (TOES) to promote “economics as if people and the planet mattered.” Partners with NEI, below.
10. **New Economics Institute** (c.1980; [www.NewEconomicsInstitute.org](http://www.NewEconomicsInstitute.org)): Boston and Great Barrington MA. Formerly the E. F. Schumacher Society; promotes “global transition to a new economy” and “a green and fair world.” Leaders include Gar Alperovitz, Neva Goodwin, Richard Norgaard, James Gustave Speth, and David Orr.

*Author’s Note: As background to this essay, I wish to acknowledge the many helpful conversations with my good friend Keith Wilde of Gananoque, Ontario, a truth-seeking economist with the Canadian government for 35 years.*

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## **Book review — Money and Sustainability: The Missing Link**

*A Report from the Club of Rome – EU Chapter to Finance Watch  
and the World Business Academy*

By Bernard Lietaer, Christian Arnsperger, Sally Goerner and Stefan Brunnhuber  
Triarchy Press 2012

### **Review by**

**Ivo Šlaus**, President, World Academy of Art and Science; Dean, Dag Hammarskjöld  
University College for International Relations and Diplomacy, Zagreb

**Garry Jacobs**, Chairman of the Board of Trustees, World Academy of Art and Science;  
Vice President, The Mother's Service Society

This report by WAAS Fellow Bernard Lietaer and his associates addresses important theoretical and practical issues regarding modern monetary systems. The central thesis of the report is that effective monetary systems must optimize performance on two complementary goals — efficiency of transactions and resilience in the face of destabilizing forces and events. National monetary systems maximize efficiency, but they lack the resilience to prevent catastrophic events such as those that have plagued the global financial markets and global economy over the past four years. The report advocates adoption of a variety of counter-cyclic, complementary currency systems to supplement and compensate for the inadequacies and vulnerabilities of national money systems.

The authors' effort to make explicit the conceptual framework underlying the current financial system is a very meaningful contribution to the subject of money. It is based on a wider perspective that views money and economy as subsets of society and recognizes the enormous potential for more effectively integrating the subset with the whole of which it is a part. It is important to note their emphasis on the enormously positive contribution which money has made historically to social development, a point often overlooked by critics of the current system.

The discussion on complementary money systems provides insight into the real sources of wealth creation in society. Complementary systems have the capacity to compensate, at least to some extent, for the structural deficiencies of the present system, and to do so in a counter-cyclic manner at precisely the times when national systems are least able to respond constructively. One very important characteristic

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*“A human-centered approach integrating the principles of economic equality constitutes the right foundation for evolving a comprehensive solution to the present crisis.”*

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of these systems is that they are essentially human-centered — based on unutilized human capacities and designed to serve unmet human needs — rather than market, money or technology-centered. A human-centered approach integrating the principles of economic equality constitutes the right foundation for evolving a comprehensive solution to the present crisis.

Alternative systems that release the productive forces of society and increase the velocity of money exchange are unique attributes that can have a stabilizing, counter-cyclic and stimulative effect on the real economy. The report also suggests that complementary currencies may be an effective way to promote investments needed to address climate change. This alone would make them immensely valuable. It is noteworthy that the USA had a multi-currency, decentralized money system throughout most of the 19<sup>th</sup> century, a period of very rapid economic and social progress.

## 1. Resilience & Efficiency

Resilience is a very important attribute of any social system. The occurrence of more than 400 financial crises over the past 40 years is sufficient evidence that the prevailing system of national currencies fails the test of resilience. Proponents argue that national currencies perform far better on the score of efficiency. But the current model may be considered efficient only in the narrowest of terms, with regard to the speed and ease of exchange. Viewed in terms of wider social purpose, here too it fails dismally. The report cites data estimating that the total cost of the 2007-2008 crisis in the US alone exceeds \$14 trillion, equivalent to about 90% of the country's GDP.

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*“Efficient allocation of money to maximize returns on that money is not the central purpose of either money or economy.”*

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The real measure of the efficiency of a monetary system should be its contribution to real economic growth and living standards. National money systems tap the organized market, but they fail to convert the enormous social potentials into wealth. Perhaps the most compelling indictment of the present system is that it does such a poor job of efficiently utilizing resources to produce and distribute wealth. Since the onset of financial deregulation in the 1980s, the growth of real incomes shows only marginal progress for the vast majority of citizens in OECD countries. For all the praise of efficient market theory, efficient allocation of money to maximize returns on that money is not the central purpose of either money or economy. Money is intended to support growth and functioning of the real economy to provide for the basic needs of all human beings.

The problem of financial instability raises issues addressed by Orio Giarini in his writings challenging the notion of equilibrium of a closed system. In “Science & Economics: The Case of Uncertainty and Disequilibrium”, he argues that economic equivalence between supply and demand is a tautology, not an equilibrium equation.<sup>1</sup> He views the monetarized economy as part of a larger whole which includes unmonetized as well as unmonetarized activities with real economic value. He also argues that the system needs to be understood in its

entirety as an open system that encompasses the entire society and environment. The basic ground for economic events is an inherent uncertainty, which represents the undefined source of all social creativity as well as the field from which new economic value is created.

The authors of the report refer to the international financial system as a Global Casino, a very fitting analogy which lays stress on the inherently non-productive character of the present system that diverts vast resources for speculation. Daily, some \$4 trillion is traded in foreign exchange transactions, only 2% of which makes its way into the real economy. At the root of this phenomenon is an increasing surplus of money arising from concentrated accumulation by the richest of the rich. Like every other form of concentration, beyond a point the positive accumulation is converted into a destructive force. The current system is geared and biased toward creation of money for speculation, rather than to support the real economy. The authors' arguments on efficiency and instability in relation to derivatives testify to the dangers inherent in speculative trading of financial instruments. To scientifically make a case against speculation would itself constitute a huge and original contribution to economic theory.

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*“To scientifically make a case against speculation would itself constitute a huge and original contribution to economic theory.”*

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“*Economy is a subset of society and environment.*”

Since national monetary systems are not likely to be replaced in the near future, it would be useful to examine the potential scope for improving resilience within the existing national money systems. This would only enhance the credibility and utility of adopting complementary currencies as a supplementary measure. Given the authors' intimate knowledge, experience and original perspective on money, it is quite possible that they may be able to come up with proposals that those within the system fail to recognize. That would create a powerful entry point and may provide a wider opportunity for presenting their more comprehensive approach.

## 2. Externalities

The discussion in the report on externalities clearly highlights the tendency of social systems to become compartmentalized and isolated from the wider social purpose they are intended to serve. The authors stress the fact that economy is a subset of society and environment. This places money and economy in a wider context. It highlights the fact that a subsystem both depends on and should serve or at the very least be in harmony with the wider interests of the entire system. By the same logic, the monetary system is merely one subsystem of economy and cannot function effectively unless it is in harmony with that wider entity. Here the observations about speculation and inequality are particularly important. Financial markets, which evolved as an adjunct and support for commerce and industrialization, have become more and more divorced from their original function, depriving the real economy of essential capital and even destabilizing it by their speculative behavior. The same is true of the banking system, since the walls separating commercial from investment banking have been torn down. Money goes for speculation rather than investment in production and jobs. In other words, even economy has become an externality to finance!



This perspective is an excellent complement to that of Orio Giarini, who has emphasized the importance of several other boundary lines between society and economy: He continuously reminds us that the fundamental purpose of economy is to promote human welfare; that the basic notion of value must be related to utility and human welfare; that there is an essential difference between the material-based, resource-limited industrial economy and the human-centered service economy we have today; that the principle of uncertainty must be incorporated into any true measure of economic value; and that the boundaries between monetarized and non-monetarized activities are ever-changing.

### **3. Governing Banking**

The current crisis arose because banks have lost sight of their principal function, which is to serve society. The current crisis is a function both of the nature of the monetary system and the way the monetary system is being operated by the banks. In other words, even within the present system, there is considerable scope for changing the operating rules. Social progress often involves introducing internal controls to compensate for externalities. Are there ways in which the externalities threatening the national money system can be countered by internal rule, system and discipline? For example, when it nationalized the commercial banking system in 1969, the Government of India introduced priority sector banking regulations to ensure that growth of the commercial banks would be utilized to channel funds to agriculture and small industry, not merely servicing the urban corporate sector and the wealthy. What government did by central bank dictate can also be done by law.

Although the report focuses on inherent structural deficiencies in national currencies and the value of promoting complementary money systems, it is important to recognize the scope and need for actions to alter the functioning of the present system in order to make the analysis and recommendations comprehensive and complete. This need is only addressed in a minimalistic way by most of the actions now being taken by governments to reform banking and financial systems. A Tobin Tax or other measures to reduce speculation would have immense impact on the overall monetary and economic system. The Tobin tax is an excellent example of a public policy measure that can be used to curb the excesses of speculative money transfers and improve the resilience of the entire financial system by stabilizing system-wide effects. In recent years many internalized measures have been abandoned on the excuse of globalization. Such measures at the national level need to be introduced at the global level as well.

The discussion in Chapter V forcefully brings out the inherent propensity of the present system to magnify inequalities and the impact of growing inequalities on economic development, social stability, and ecological sustainability. The vast growth inequality of incomes and wealth seen in recent decades is very largely due to the biased manner in which banking seeks to maximize profits by supporting and leveraging speculative investments, rather than leveraging investments in the real economy.

After nationalization of the banks in India, a major proportion of lending was earmarked for agriculture, small industry and weaker sections of the population. This policy had immense benefits for development. Now that banking is becoming more commercialized, the stress on sectorial targeting is being lost. No wonder income and wealth inequalities are rising rapidly.

## 4. Plutocracy

The defects in the present system are not limited to the fact that banks control money creation. The problem extends far deeper, into the incestuous relationship between money and politics. The nexus between banks and government creates an effective plutocracy in which both money creation and law heavily favor the wealthy at the expense of the common man. A monetary system explicitly designed to support optimal growth and economic equality would operate very differently. Its impact would be much more like that of complementary money systems.

The concentration of economic and political power resulting from the present system is a subset of the broader issue of how power is distributed in society. Money is a form of social power which is interchangeable with other forms of power, a theme examined in a separate article on “The Power of Money”.<sup>2</sup> The principles governing the distribution of that power have immense impact on the results of the money system. Emerging during a period of intensive nationalism and concentration of power in centralized institutions, this means that the monopolistic approach to money creation can easily become a means to monopolize political and social power.

Power belongs to society and is intended for the benefit of society. So, systems need to be evaluated in terms of how they distribute power. In retrospect, that is how we evaluate monarchy, military dictatorship, fascism and state communism. All these systems concentrate power (whether military, political, religious, administrative or industrial) in the hands of an elite. The current system concentrates money power in a similar manner. The impact of excessive concentration of power in any form is well-documented. It inevitably leads to crises and revolutions. When power is truly directed for the benefit of the entire society, it loses its destructive edge.

## 5. Human Capital

The World Academy’s program framework emphasizes the central importance of human capital. This too is powerfully influenced by the monetary and banking system. The present system, which has led to high levels of government indebtedness, fails to take into account or monetarize the enormous value of social capital being created. In a paper for *Cadmus*, we argued that rising levels of education constitute an investment in future welfare and well-being.<sup>3</sup> Therefore, investment in education should be treated as an acquired asset rather than an expenditure, even before it begins to reflect as growth of national income. This would offset the tendency to reduce expenditure on education as a first resort to balancing budgets. The same would apply to public health.

*“The enormous waste of human resources – human capital – as a result of massive unemployment and underemployment is clear proof of a failed system.”*

The enormous waste of human resources — human capital — as a result of massive unemployment and underemployment is clear proof of a failed system. Economist Randall Wray estimated that the real economic and social costs to society of high levels of unemploy-

ment and underemployment in the USA equal or exceed the cost of directly employing them. These costs are the result of a system that focuses on and rewards the efficiency of money, rather than the efficiency of all social resources. Of course, the same argument applies with equal force to the wasteful and destructive impact on the environment.

In sum, the report successfully highlights the potential of complementary currencies, which are one of a dozen ways in which the untapped social potential can be monetized and converted into wealth. The report would have even greater value had it fully applied the principles on which it is based to offer a solution to the present financial crisis. Full exploitation of this single mechanism can certainly release great wealth and extend the viability of capitalism, but it does not address the root issue of economic inequality which underpins the present system and thus cannot constitute a permanent solution. For this, the conscience of the world must awaken to embrace higher human values.

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#### **Notes**

1. Orio Giarini, "Science & Economics: The Case of Uncertainty and Disequilibrium," *Cadmus* 1, no.2 (2010): 25-34 <http://cadmusjournal.org/article/issue-2/science-and-economics-case-uncertainty-disequilibrium>
2. Garry Jacobs and Ivo Šlaus, "The Power of Money," *Cadmus* 1, no. 5 (2012): 68-73 <http://www.cadmusjournal.org/article/issue-5/power-money>.
3. Garry Jacobs and Ivo Šlaus, "Indicators of Economic Progress: The Power of Measurement and Human Welfare," *Cadmus* 1, no.1 (2010): 53-113 <http://www.cadmusjournal.org/article/issue-1/indicators-economic-progress-power-measurement-and-human-welfare>

## **Statement on Transforming Finance**

### **BASED ON LIFE'S PRINCIPLES**

We the signers hold these biological truths to be self-evident that the human species is interdependent with all other life forms on Planet Earth. Therefore, human societies, cultures, values and belief systems that are informed by and modeled on the following Life's Principles, which are strategies universal to all organisms, should provide the basis for all production and exchange of goods, community structures and services. This includes the design of monetary systems, investments, banking, financing, bartering, reciprocal exchange, payments, crowdfunding, compensation and unpaid gifting, sharing, cooperatives, reproduction of future generations, provision of public goods, infrastructure, collective health, education and life-supporting services.

**Hazel Henderson**, Founder & President, Ethical Markets and  
**Janine Benyus**, Co-Founder & President, Biomimicry 3.8

Click here for a [full list of signatories](#).

## Book Review — Resilient People, Resilient Planet: A Future Worth Choosing

*Report of the United Nations Secretary-General's High-Level Panel  
on Global Sustainability. NY: United Nations, 30 Jan 2012, 94p  
(download full report or 22p Overview at [www.un.org/gsp](http://www.un.org/gsp))*

**Review by Michael Marien**

Fellow, World Academy of Art and Science;  
Director, GlobalForesightBooks.org

This report is the latest UN vision of what must be done for a sustainable planet—essentially an update of the 1987 Brundtland report—featuring 56 proposals to empower people, to promote a sustainable economy, and to strengthen governance.

### 1. Prologue: The Panel's Vision

“Our planet and our world are experiencing the best of times and the worst of times”: unprecedented prosperity and unprecedented stress, with growing inequality and rising waves of protest in many countries. Due to an array of overlapping challenges, “it is more urgent than ever that we take action to embrace the principles of the sustainable development agenda.” It is time for “genuine global action” that integrates the economic, social, and environmental dimensions of development. “That sustainable development is right is self-evident. Our challenge is to demonstrate that it is also rational—and that the cost of inaction far outweighs the cost of action.”

The challenges are great, but so are the new possibilities when we look at old problems with fresh eyes: new technologies, markets, growth, and jobs from “game-changing products and services,” and new approaches to public and private finance that can lift people out of poverty. But “democratic governance and full respect for human rights are key prerequisites for empowering people.”

Thus, “the long-term vision of the High-level Panel on Global Sustainability is to eradicate poverty, reduce inequality and make growth inclusive, and production and consumption more sustainable, while combating climate change and respecting a range of other planetary boundaries.” This reaffirms **Our Common Future**, the 1987 report by the World Commission on Environment and Development, a.k.a the Brundtland report. [Note: Gro Harlem Brundtland is one of the 22 members of the Panel chaired by Finnish President Tarja Halonen

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*“It is time for “genuine global action” that integrates the economic, social, and environmental dimensions of development.”*

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and South African President Jacob Zuma; Janos Pasztor served as Executive Secretary of the Panel.]

But what is to be done to make a real difference? We must grasp the dimensions of the challenge: unsustainable lifestyles, production and consumption patterns, and population growing from 7 billion to almost 9 billion people by 2040. “By 2030, the world will need at least 50% more food, 45% more energy, and 30% more water—all at a time when environmental boundaries are throwing up new limits to supply.” The current global development model is unsustainable. Sustainable Development (SD), introduced by the Brundtland report 25 years ago, remains a generally agreed concept, rather than a practical reality. This is so because it has “undoubtedly suffered from a failure of political will,” and it “has not yet been incorporated into the mainstream national and international economic policy debate.”

For too long, economists, social activists, and environmental scientists have talked past each other, almost speaking different languages. “The time has come to unify the disciplines, to develop a common language for sustainable development,” and to bring the sustainability paradigm into mainstream economics and the political process.

“The Panel presents 56 recommendations to advance its vision for a sustainable planet, a just society, and a growing economy.” They are briefly stated here as follows:

## **2. Proposals to Empower People to Make Sustainable Choices**

“Real choice is only possible once human rights, basic needs, human security, and human resilience are assured.” Priority areas for action:

1. Achieve the Millennium Development Goals to eradicate poverty and reduce inequality;
2. Respect, protect, and provide human rights, as recognized in the 1948 Universal Declaration and the 1966 International Covenant;
3. Advance gender equality and women’s rights, including universal access to family planning and the right to inherit and own property;
4. Consider establishing a Global Fund for Education to close the primary school education gap by 2015;
5. Set a goal for universal access to quality post-primary and secondary education no later than 2030;
6. Provide vocational training, retraining, and professional development to fill skills shortages in sectors essential for sustainable development;
7. Adopt and promote “green jobs” and decent work policies;
8. Build business-government partnerships, and start-up services for young entrepreneurs;
9. Advance equality in the workplace;
10. Enable full participation of women in the economy by improving access to land and finance, supporting the rise of women leaders, etc.;
11. Promote open, transparent, science-based processes for labeling schemes that reflect the impact of production and consumption;

12. Make sustainable choices more easily available and affordable to consumers by setting sustainable product standards and applying price incentives and disincentives;
13. Integrate the concept of SD and sustainable consumption into primary and secondary school curricula;
14. Encourage discourse on the ethical dimensions of SD;
15. Create a new “ever-green revolution” for the 21<sup>st</sup> century that aims to at least double productivity while drastically reducing resource use and pollution;
16. Agree on global principles for sustainable and responsible land and water investment deals;
17. Establish and scale up integrated water resource management schemes;
18. Establish regional oceans and coastal management frameworks in major marine ecosystems;
19. Focus on an ecosystem-based approach to fisheries management;
20. Ensure universal access to affordable sustainable energy by 2030, while doubling the rate of improvement in energy efficiency;
21. Provide citizens with access to technologies, including universal telecoms and broadband networks by 2025;
22. Engage in international cooperation on innovation- and technology-oriented sustainable development on an enlarged scale;
23. Ensure that all citizens are provided with access to basic safety nets through appropriate national efforts;
24. Enhance resilience by managing the impacts of transition, especially by targeted social protection programs to deal with increasing environmental stress and potential shocks;
25. Accelerate efforts to assess regional exposure and vulnerability, and to take appropriate precautionary strategies;
26. Increase resources allocated to disaster risk reduction and adaptation.

### **3. Proposals for a Sustainable Economy**

“Achieving sustainability requires us to transform the global economy. Tinkering on the margins will not do the job.” The current global economic crisis “offers an opportunity for significant reforms.” Needed policy action in key areas:

27. Establish price signals that value sustainability, so as to guide investment and consumption decisions; this includes:
  - a) Natural resource and externality pricing instruments, including carbon pricing;
  - b) Full consideration of women, youth, and the poor;
  - c) Reform national fiscal and credit systems to provide long-term incentives for sustainable practices, and disincentives for unsustainable behavior;
  - d) National and international schemes to pay for ecosystems services in water use, farming, fisheries and forestry;

- e) Address price signals that distort investment and consumption decisions (e.g., transparent disclosure of all subsidies);
  - f) Phase out fossil fuel subsidies by 2020, and reduce other perverse subsidies;
28. Shift to cost-effective sustainable procurement for public institutions over the next 10 years, issuing annual reports on progress;
  29. Develop sustainability standards for production and resource extraction;
  30. Develop a framework for sustainable development reporting, with mandatory reporting for corporations capitalized at >\$100 million;
  31. Align business practices with universally accepted principles, such as those in the Global Compact;
  32. Apply sustainable development criteria to the boards of sovereign wealth funds, public pension funds, stock exchanges and regulators, and credit rating agencies;
  33. Step up efforts of banks to promote SD;
  34. Build strategic partnerships between government, business, and local communities to implement SD investments;
  35. Create incentives for increased investments in sustainable technologies and infrastructures, including policies that reduce investor uncertainty and risk guarantee schemes;
  36. Use public investment for enabling frameworks that catalyse very substantial additional financing from the private sector;
  37. Shape investor calculations about the future through greater use of risk-sharing mechanisms, and enhancing certainty about the long-term policy and regulatory environment;
  38. Develop public/private partnerships for capacity-building and increased access to capital;
  39. Develop a Sustainable Development Index or similar set of indicators by 2014 to measure progress.

#### **4. Proposals to Strengthen Institutional Governance**

“We need to build an effective framework of institutions and decision-making processes at the local, national, regional, and global levels.” We must overcome the legacy of fragmented institutions established around single-issue ‘silos’; lack of flexibility in adaptation; and “a frequent failure to anticipate and plan.” Priority areas for action:

40. Ensure the rule of law, good governance, and citizens’ rights of access to official information and participation in decision-making;
41. Enable young people’s participation in decision-making at all levels, and support dialogue to encourage non-conventional voices;
42. Adopt “Whole-of-Government” approaches to SD issues, involving all relevant ministries;
43. Incorporate the SD perspective into legislation and budget processes, taking into

account the economic, social, and environmental dimensions of ending poverty, creating jobs, reducing inequality, energy, green growth, etc.

44. Strengthen the science/policymaking interface to facilitate informed political decision-making on SD issues;
45. Explore the concept and application of the critical issue of equity in relation to SD;
46. Step up efforts of bilateral donors and development banks to promote SD in a comprehensive way;
47. Strengthen UNEP, in that international SD policy is fragmented, especially the environmental pillar;
48. Develop a set of key universal SD goals to galvanize action, complement the MDGs, and promote a post-2015 framework;
49. Implement without delay the UN Secretary-General's "Sustainable Energy for All" initiative;
50. Prepare a regular and integrated SD Outlook report;
51. Launch a major global scientific initiative to strengthen the interface between policy and science, including regular assessments and digests of the science of "planetary boundaries," "tipping points," and "environmental thresholds" in the SD context;
52. Create a global SD council to improve integration of the three dimensions of SD, address emerging issues, and review SD progress;
53. Encourage States, in a constructive spirit, to explain their policies, share experiences and lessons learned, and fulfill their commitments;
54. Use the post-Rio+20 period of 2012-2015 for deliberate review and experimentation, incorporating tested solutions into any post-2015 development framework;
55. Expedite development of an SD strategy for the UN system, to better define responsibilities and to reduce duplication;
56. Make full use of the UN as the world's meeting place, convening periodic high-level exchanges on SD when leaders meet.

## 5. Comment

This long list of new, newish, and old proposals may be eye-glazing, but it is useful to present these ideas in a compact format, although many are overlapping, and the three basic categories are rather broad and fuzzy. Together, these proposals point to a new set of global goals to supersede the Millennium Development Goals for 2015—a "post-2015 framework" (#48).

Older and more familiar goals include gender equality (#3), green jobs (#7), integrated water management (#17), international cooperation on technology for sustainability (#22), price signals that value sustainability and ending fossil fuel subsidies (#27), sustainable public procurement (#28), and "whole-of-government" approaches (#42).

Notable proposals that seem new or relatively new include a Global Fund for Education by 2015 (#4), universal access to secondary education by 2030 (#5), an "ever-green revolu-



tion” to at least double productivity (#15), global principles for land and water investment deals (#16), universal access to affordable sustainable energy by 2030 (#20), a Sustainable Development Index by 2014 (#39), a set of universal sustainable development goals (#48), a regular SD Outlook report (#50), a strengthened science/policy interface to facilitate informed decisions (#44), and exploring the issue of equity as related to SD (#45).

This is a very ambitious agenda, but given the perilous economic situation at present (not mentioned), don’t get your hopes up too far, although positive surprises are always welcome! ALSO SEE similar reports from Canada’s Centre for International Governance Innovation (Post-2015 **Development Agenda: Goals, Targets and Indicators**; [www.cigionline.org](http://www.cigionline.org), Oct 2012, 63p), the Worldwatch Institute (**Moving Toward Sustainable Prosperity: State of the World 2012**; GFB Book of the Month, April 2012), OECD (**Towards Green Growth**; GFB Book of the Month, Aug 2011), and the Millennium Project’s 15 global challenges updated annually in its **State of the Future** reports; see GFB Book of the Month, Sept 2010. It would be valuable to examine all of these reports for similarities and differences, as well as the pile of more than 100 recent books on particular elements of sustainability (see GFB “Sustainability”). For example, although Worldwatch Institute has many proposals similar to the High-Level Panel, Worldwatch goes further in advocating “degrowth” in overdeveloped countries, limiting population growth, and discouraging livestock production.

A major omission of the High-Level Panel is the absence of any mention of academia, despite the Panel’s call to “overcome the legacy of fragmented institutions.” The fragmentation of knowledge in academia around fiefdoms and “silos” of perception is just as bad as the “single-issue silos” in government that the Panel criticizes; indeed, thinking systemically, academia may well be the major cause of this lack of systems thinking!

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## **A Call for Articles**

### **Great Individuals In History**

The World Academy’s Project on Individuality has documented the unique role which outstanding individuals have played in the development of human society, civilization and culture. Individuality expresses in many varieties — as the pioneer, inventor, entrepreneur, social innovator, leader, artist, thinker, genius and the saint — yet, all share some common characteristics which distinguish them from millions of other people. The mature individual is one who transcends the limits of conventional and existing social attainment and has the courage and self-reliance to attempt something new and different.

The WAAS Individuality Project seeks to identify and illustrate the essential attributes that characterize extraordinary instances of individuality and the factors that promote its occurrence. We invite Fellows to submit psycho-biographic essays on extraordinary individuals with whom they have been acquainted either personally or through their professional activities. A selection of the best essays will be published by WAAS. For further information, please contact [individuality@worldacademy.org](mailto:individuality@worldacademy.org).

