## The Banks, World Management, and Sociocybernetics.

A paper prompted by events in Greece and chance encounters on Youtube.

John Raven
30 Great King St.,
Edinburgh EH3 6QH
Scotland.

Email: jraven@ednet.co.uk Website: www.eyeonsociety.co.uk

Version Date: 21 August 2015

Oleg Yarygin translated this article into Russian and it was published in the Karelian Scientific Journal, Vol 2015-3(12) pp.74-79 http://www.napravo.ru/pages/nauchnye\_jurnaly/karelskii\_nauchnyi\_jurnal/nomera\_jurnalov\_kar/

In a Q&A session following a lecture by Jonathon Porritt in the early 1980s I suggested that he had failed sufficiently to emphasise the many problems which lurk behind widely accepted notions about the efficiency of the so-called "market process". This prompted a member of the audience to catch me after the talk and insist that I acquire a copy of a small pamphlet entitled *The Money Trick*<sup>i</sup>.

As I followed this up I found myself drawn deeper and deeper into an understanding of the, at first unbelievable, process whereby banks create, by simple ledger entries, money they do not have and then lend it to "borrowers" at nominal rates of 6 to 15%. This process has now become "well known"ii.

Less well known is (i) that, given that, in most cases, the "lender" did not have even a fraction of the money that was nominally "lent"iii, the true rate of interest on the "loan" is infinity<sup>iv</sup>, (ii) that, since the lender acquires a lien on (demands security for) these vast "loans" of fictitious money (often to governments and secured by national assets) those who own the "banks" will inevitably end up owning the world in the event of a collapse of the financial system, (iii) as a result of changes in the banking regulations, it is no longer just banks who are creating this vast mountain of fictitious money but also the finance divisions of corporations like General Electric<sup>v</sup>, (iv) a huge proportion of the funds "borrowed" are used as collateral to secure borrowing of further fictitious money which is in turn invested in schemes to make still more money out of borrowing and lending fictitious money: ie in a huge Ponzi scheme, (v) this Ponzi scheme ("financialisation of the economy") now generates more than 50% of GNP, (vi) the vast *private* "debts" required to finance this Ponzi scheme have soared astronomically in the past decade, whereas government debt has hardly increased at all, (vii) it was this private debt, not government debt, that was somehow behind the 2008 financial crash, (viii) attributing that crash to government debt and demanding that governments sell assets to reduce their debts merely accelerates the process whereby the banks and international corporations<sup>vi</sup> end up owning the world, (ix) this Ponzi scheme has created a huge amount of work as "financial advisers", contract writers, lawyers, call-centre operatives, etc. who then spend their incomes on products and services the production, utilisation, and disposal of which makes huge profits for those who own transnational corporations but are wreaking havoc on our habitat.

But now I have stumbled on another assertion about the banking community which, if true, is still more disturbing.

It is the purpose of this article to review this assertion and explore its implications.

But first I would like to say more about where we had got to before this "discovery".

This nature of the money trick was only one of the many surprising things I discovered in the course of writing my book *The New Wealth of Nations*<sup>vii</sup>.

One of the conclusions these findings collectively pointed to was that we, the peoples of the world, do not have an *economic* problem. We have a *public management* problem<sup>viii</sup>.

This conclusion was deeply unpopular, which perhaps explains why I have had such little success in promoting any discussion of alternative public management arrangements<sup>ix</sup>.

Nevertheless, as it happened I had, by that time, in an effort to draw more general conclusions out of my quarter-of-a century's involvement in studies of the educational system, tried<sup>x</sup> to map the network of mutually supporting feedback loops which deflect the system from its manifest goals. The result – which I would now call a systemogram – highlighted two main problems: (i) the nature of the governance process deployed to manage the system, and, (ii) the pressures and constraints stemming from the *sociological* functions (such as allocation of position and status) which the "educational" system performs for society<sup>xi</sup>.

Reflecting on the former led me to try to come up with a kind-of a design for a less hierarchical, more organic, management system having multiple feedback loops between numerous decentralised cells concerned with experimentation, evaluation, and learning. (It was obvious that a *pervasive* climate of innovation and learning was needed in order to find ways of dealing the host of multiple and inter-related problems I had identified.)

In working up *The New Wealth of Nations*, recognising that the so-called "market process" does not, and cannot, fulfil this function (as Adam Smith had hoped), I then revised and extended what I had learned from studying the educational system in such a way as to generate an alternative response to his quest for a design for a society which would innovate and learn without central direction<sup>xii</sup>.

We also attempted to sketch the network of feedback processes which appeared to contribute to our continual move, despite everyone's desire to do the opposite, toward a society (organised on a single-factor ["hierarchy of ability"] basis) which is going to destroy our habitat and thus lead to our extinction as a species.

Since I wrote *The New Wealth of Nations* I have become more familiar with the systems-thinking world of sociocybernetics<sup>xiii</sup> and discovered the work of Bookchin<sup>xiv</sup> and Graeber<sup>xv</sup>. Bookchin and Graeber have emphasised the positive feedback loops whereby the emergence of hierarchy depends upon the creation of senseless projects (such as building pyramids, castles, churches, and armies) which recursively justify both the senseless work involved in executing them and the appointment of managers to oversee the work. In other words, hierarchy depends on the creation of senseless work which contributes little to quality of life but does end up destroying our habitat and thus our chances of survival as a species<sup>xvi</sup>.

Mapping, measuring, and harnessing the network of social forces which lie behind this thus emerges as an urgent task.

But, in the last month or so, I have stumbled on something else which, on the face of it, suggests, on the one hand, that it is still less likely than it was before that anything worthwhile would come of an attempt to do this and, on the other hand, underlines the importance of doing it.

Whereas, as Grignon<sup>xvii</sup>, among others, had argued, that the emergence of the "financialized economy" in which the banks and Trans National Corporations will end up owning the world can, with difficulty<sup>xviii</sup>, be seen as an outcome of a self-perpetuating and self-extending (autopoietic) process stemming from the bankers' initial and accidental discovery that they could lend more money than they had on deposit<sup>xix</sup> (similar to the autopoietic extension of the so-called "educational" system) without any need to posit a conspiracy, it is much more difficult (though not impossible) to maintain that the other assertions which have recently come to my attention about the establishment and workings of the confederation of international banks that is known as the Federal Reserve System came about without such conspiracy<sup>xx</sup>.

Although I have only recently come across the assertion<sup>xxi</sup>, it has apparently, for some time, been claimed that the UNITED STATES OF AMERICA (inc) does not exist as a federation of states but is a private corporation owned by the Federal Reserve banks and legally incorporated (registered) in a plot of land deliberately established to be outside the jurisdiction of any state. This corporation, like any other, has a president, a secretary and a treasurer.

Because it is not incorporated within any state, both its own dealings, and those of the Federal Reserve Bank, with the American states which constitute the American federation, as well as the rest of the world, are dealings in foreign countries - and thus outwith the scope of state and national legislation. Of particular importance from the point of view of the management of the world economy, this ploy enables the "Fed", the World Bank, and the IMF to evade national laws relating to such things as fraud and usury in relation to lending. In this way it enables them to avoid prosecution for charging interest on lending money they do not have and for, for example, "repossessing" houses and state assets in which they actually invested nothing<sup>xxii</sup>.

This assertion has been disputed<sup>xxiii</sup>. But, if true, it is of the greatest possible importance from the point of view of working out how – i.e. through what institutional arrangements – the Greek government (and others) can pursue their (correct) allegation that the situation into which they have been trapped via the creation of financial crises leading to "rescue" packages involving bank lending has been achieved by means that are fraudulent (in that they involve no transfer of real money and will not deliver the promised benefits), usurious, and extortionate (in that they were forced on Greece by threatening death and destruction) and therefore seriously illegal (criminal) by any standards<sup>xxiv</sup>. However, interestingly enough, if it the UNITED STATES OF AMERICA and the Federal Reserve Banks are, indeed, private corporations (as distinct from governments or government agencies) they are open to being sued.

Even if this extraordinary assertion is not true, the possibility that it *might* be true somehow makes my claim that it might be possible to stem our plunge toward extinction as a species by seeking to conceptualise, map, measure and harness the hidden social forces at work seem less plausible. For, in a sense, these forces are right here in front of our eyes ... and, in a

sense, clearly visible through the works of such people as Susan George $^{xxv}$  and Naomi Klein $^{xxvi}$   $^{xxvii}$ .

On the other hand, it is also true that the drift to hierarchy, centralisation, and command and control had been happening long before the emergence of modern capitalism, banks, and bankers<sup>xxviii</sup>. As Bookchin showed, at every choice point in history, we have moved from societies that were more organically organised toward centralisation and hierarchy despite endless demonstrations of the destruction that such organisational arrangements wreak on most, if not all, individuals – and habitat in particular. Not to mention endless demonstrations of the viability and benefits – to society, individuals, and habitats – of more organically organised arrangements. All of these have eventually been eliminated by a seemingly inexorable onward march of hierarchy. Are some people just so much better at systems thinking than others that they are better able to work out how to advance themselves (and the sub-set of the community to which they belong) than others? Or is the explanation to be found elsewhere, just as the behaviour of the planets and other moving objects is to be found, not in the will of the gods or the nature of the moving objects<sup>xxix</sup>, but in the laws of physics. Only when the latter had been understood was possible to design the cybernetic (governance) systems that made it possible to have sailing boats that could sail into the wind and interplanetary missiles.

As I see it, Graeber<sup>xxx</sup> has shown that the recent attempt by the *Occupy* movement to stem the tide and create a more satisfying and sustainable society in America has been met, not just by a combined massive reaction on the part of the banks, trans-national corporations, governments, and other vested interests, but by a *systemic* reaction – a reaction of a system *as* a whole – as distinct from the prolific, but discrete, reactions of its constituent parts<sup>xxxi</sup>.

In other words, it is *not true* that we understand the forces at work and who the enemy is, who to fight.

It is not true that, as Corbett claims, we need to join forces to "fight the banks".

It is true that, if we are to survive as a species, we urgently need to dismantle our economic system, our chemical intensive agriculture, our oil-based economy<sup>xxxii</sup>. We do need austerity ... but not the kind of austerity that is currently being talked about: we need a form of austerity which, without destroying our habitat<sup>xxxiii</sup>, delivers long, high-quality, lives (which, incidentally, do not depend on the material goods we strive so hard to produce<sup>xxxiv</sup>).

The way forward will not, as most of those associated with the degrowth movement seem to think, be found by fixing this or that so that we can go on pretty much as we do now. All their good ideas will be eliminated by the onward march of hierarchy unless we understand the forces responsible for this phenomenon and work out how to intervene in and harness them.

One cannot fight the wind which crashes our boats against the rocks. It is no good shouting at ships' captains or politicians or sacrificing our children to the Gods. We have to conceptualise "force", and show how it can be measured, mapped, and harnessed by putting keels on our sailing boats and redesigning the sails and the rudder.

By analogy, we now have to conceptualise social forces and show how they can be harnessed.

Just as we had to progressively redesign the cybernetic system of our sailing boats we have to redesign the governance system we deploy in an effort to manage our society.

We have made a start. We have sketched out an alternative response to Adam Smith's quest for a design a public management system which would innovate and learn without central direction. And we have a (less good) preliminary sketch of the network of social forces which perpetuate the creation of senseless work ... though not of the elaboration and perpetuation of hierarchy<sup>xxxv</sup>. The problem is to find a way of continuing with the task, the magnitude of which is huge<sup>xxxvi</sup> in comparison with current budgets for social research<sup>xxxvii</sup>.

And, even then, we would not have "solved" the problems, any more than Newton prevented sailing boats crashing against the rocks. We would only have better tools to facilitate evolution toward a dimly glimpsed, but as yet unknown, destination\*\*xxxviii\*.

## REFERENCES

- Bookchin, M. (2005 [1971; 1991]). *The Ecology of Freedom: The Emergence and Dissolution of Hierarchy*. Oakland, CA: AK Press.
- Bosch, O.J.H., Nguyen, N.C., Maeno, T., and Yasui, T. (2013) Managing Complex Issues through Evolutionary Learning Laboratories *Systems Research and Behavioral Science* Syst. Res (2013) Published online in Wiley Online Library (wileyonlinelibrary.com) DOI: 10.1002/sres.2171
  - $\frac{http://www.business.adelaide.edu.au/research/specialisations/systems-design-complexity-management/documents/managing-complex-issues-through-evolutionary-learning-laboratories.pdf$
- Corbett, J. (2014). Video: *Century of Enslavement: The History of The Federal Reserve*<a href="https://www.youtube.com/watch?v=waetWPG\_W7o">https://www.youtube.com/watch?v=waetWPG\_W7o</a>. Transcript available at
  <a href="https://www.corbettreport.com/federalreserve/">https://www.corbettreport.com/federalreserve/</a>. Downloaded and saved at: Nonrpmarts:

  Century of Enslavement.doc
- Dearden, N. (2015) Greece is about to be completely dismantled and fed to profit-hungry corporations. *The Independent*, Wednesday 12 August 2015.

  <a href="http://www.independent.co.uk/voices/comment/greece-is-about-to-be-completely-dismantled-and-fed-to-profithungry-corporations-10452068.html">http://www.independent.co.uk/voices/comment/greece-is-about-to-be-completely-dismantled-and-fed-to-profithungry-corporations-10452068.html</a>
- Forrester, J. W. (1971/1995). Counterintuitive Behavior of Social System: An introduction to the concepts of system dynamics, discussing social policies and their derivation from incomplete understanding of complex systems. Original text appeared in the January, 1971, issue of the Technology Review published by the Alumni Association of the Massachusetts Institute of Technology. All figures are taken from World Dynamics by Jay W. Forrester, Pegasus Communications, Waltham MA. http://clexchange.org/ftp/documents/Roadmaps/RM1/D-4468-2.pdf
- George, S. (2010). Whose Crisis, Whose Future? Cambridge, England: Polity Press.
- Graeber, D. (2011). Debt: The first 5000 Years. New York: Melville House.
- Graeber, D. (2013). On the Phenomenon of Bullshit Jobs. *Strike! Magazine*. August 2013. http://strikemag.org/bullshit-jobs/
- Graeber, D. (2014). *The Democracy Project: A History, a Crisis a Movement*. London: Penguin Books.
- Griffin, G.E. (2007) *Is the United States Government a Corporation? If true, so what?*<a href="http://www.freedomforceinternational.org/freedomcontent.cfm?fuseaction=US\_corporation">http://www.freedomforceinternational.org/freedomcontent.cfm?fuseaction=US\_corporation</a>

- Guliani, L. (2004). *The United States Isn't a Country It's a Corporation!* <a href="http://www.serendipity.li/jsmill/us\_corporation.htm">http://www.serendipity.li/jsmill/us\_corporation.htm</a>
- Grignon, P. (2007). *Money as Debt*. Animated video viewable on line at <a href="http://www.youtube.com/watch?v=vVkFb26u9g8">http://www.youtube.com/watch?v=vVkFb26u9g8</a>

The original, which was available via a Google search without going to *YOUTUBE*, seems to have been removed and replaced by a, possibly updated, version orderable as a DVD.

 $\frac{\text{http://video.google.com/videosearch?q=money+as+debt\&emb=0\&aq=0\&oq=money+as+debt\&emb=0\&aq=0\&oq=money+as+debt\&emb=0\&aq=0\&oq=money+as+debt\&emb=0\&aq=0\&oq=money+as+debt\&vid=-2550156453790090544}$ 

Or, better

http://video.google.co.uk/videoplay?docid=-2550156453790090544

- Institute of Economic Democracy. (1982). *The Money Trick*. Melbourne, Australia: Heritage; Sudbury, UK: Bloomfield Books.
- Klein, N. (2007). *The Shock Doctrine: The Rise of Disaster Capitalism*. London: Penguin Books.
- Konstantopoulou, Z. (2015). Executive Summary of the report from the Debt Truth Committee <a href="http://greekdebttruthcommission.org/wp/?tag=zoe-konstantopoulou">http://greekdebttruthcommission.org/wp/?tag=zoe-konstantopoulou</a>
  Downloaded & saved as Documents: Executive Summary of the report from the Debt Truth Committee.odt
- Marks, N., Simms, A., Thompson, S., & Abdallah, S. (2006). *The (Un)happy Planet Index: An Index of Human Well-being and Environmental Impact.* London: New Economics Foundation. Downloadable from <a href="www.neweconomics.org">www.neweconomics.org</a> and <a href="www.happyplanetindex.org">www.happyplanetindex.org</a>
- Morgan, G. (1986). Images of Organization. Beverly Hills, CA: Sage.
- Raven, J. (1994). *Managing Education for Effective Schooling: The Most Important Problem Is to Come to Terms with Values*. Unionville, New York: Trillium Press. <a href="https://www.rfwp.com">www.rfwp.com</a>; Edinburgh, Scotland: Competency Motivation Project, 30, Great King Street, Edinburgh EH3 6QH. <a href="http://eyeonsociety.co.uk/resources/fulllist.html#managing\_education">http://eyeonsociety.co.uk/resources/fulllist.html#managing\_education</a>
- Raven, J. (1995). The New Wealth of Nations: A New Enquiry into the Nature and Origins of the Wealth of Nations and the Societal Learning Arrangements Needed for a Sustainable Society. Unionville, New York: Royal Fireworks Press <a href="www.rfwp.com">www.rfwp.com</a>; Edinburgh, Scotland: Competency Motivation Project. <a href="http://eyeonsociety.co.uk/resources/fulllist.html#new\_wealth">http://eyeonsociety.co.uk/resources/fulllist.html#new\_wealth</a>
- Raven, J. (2006). *Undesirable Human Traits?* <a href="http://eyeonsociety.co.uk/resources/uhts.pdf">http://eyeonsociety.co.uk/resources/uhts.pdf</a>
  Raven, J. (2014). *Crisis? What Crisis?* pp. 90-156 in Mulej, M. and Dyek, R.G. (eds) *Social Responsibility A Non-Technological Innovation Project.* Bentham Science Publishers. Extended and modified version available at <a href="http://eyeonsociety.co.uk/resources/cwc.pdf">http://eyeonsociety.co.uk/resources/cwc.pdf</a>
- Raven, J. (2014). A Quest for Contributions (Time or Financial) to Research Aiming to:
  - (i) Make a socio-cybernetically-based (or, put another way, Dynamic System Model-based) contribution to our quest for a design for a governance (viz sociocybernetic) system which will better serve the needs of society than current forms of democracy and public management.
  - (ii) Map (and find ways of harnessing or intervening in) the network of invisible social forces which have the future of mankind and the planet in their grip. http://eyeonsociety.co.uk/resources/quest\_for\_contributions.pdf

Reich, R. (2015) *How Goldman Sachs Profited From The Greek Debt Crisis*. Published in *The Nation* and available at <a href="http://www.dinarrecaps.com/our-blog/how-goldman-sachs-profited-from-the-greek-debt-crisis">http://www.dinarrecaps.com/our-blog/how-goldman-sachs-profited-from-the-greek-debt-crisis</a>

## **ENDNOTES**

<sup>i</sup> Institute of Economic Democracy. (1982).

ii See eg Grignon (2007), Graeber (2011), Corbett (2014).

iii At one time banks were required to have one ninth of the loan (fractional reserve) in their coffers. But this is no longer true of the most important "loans", eg to international companies and governments. See eg my *New Wealth of Nations* or Grignon (2007) or Corbett (2014).

<sup>&</sup>lt;sup>iv</sup> This follows from the simple arithmetical process of dividing any number by zero.

who create and lend it so that customers [mainly governments] can buy their products.

vi An account of the way in which the Greek government has been forced to sell huge quantities of real assets to international corporations in order to secure further loans of fictitious money to repay equally fictitious "debts" (of no benefit to Greece) will be found in Dearden (2015). As the Greek government's own enquiry (Konstantopoulou, 2015) into the "debt" shows, the process is fraudulent (in that no money has been lent, did nothing to help Greece, and went straight back to the West to finance activities in the lender's economy), usurious (and thus illegal and criminal), and extortionate in that the loan was forced on Greece by the threat of closure of its banks and exclusion from the Eurozone.) The process parallels the way the fictitious "need" to reduce the (tiny) government debt in the UK has been used as an excuse to force through the sale of assets, impose privatisation of services, and drive down wages and security, including pensions. Indeed, as I have argued in Raven (2014) the whole manufacturing of the 2008 "crisis" is best understood as yet another example of extremely *effective* world management to gain the ownership of the world via the creation of "crises". (see Klein, 2007)

vii Raven, J. (1995)

viii Although not stated in these terms, this conclusion is strongly supported by the comments Robert Reich makes in the course of his film *Inequality for All*. He repeatedly emphasises that what is happening in the world economy is not determined by scientific/natural laws but laws made by men and therefore capable of being changed.

One of my lifetime achievements turns out to have been the fact that I was the only speaker to be booed in the heady days early in the formation of the British Social Democratic Party (when it was widely hoped that it would breathe new life into the country).

<sup>&</sup>lt;sup>x</sup> Following the work of Gareth Morgan (1986)

xi See Raven, (1994)

xii Note, however, that, as envisaged by Smith, the market process *does*, importantly, include a mechanism for distinguishing more from less intelligent developments. Indeed, Smith's central objective was to devise an alternative to hierarchical systems of government in which decisions are taken by "committees of ignoramuses". So far as I can see, there are no more grounds for faith in the mass populism of the internet than in the most widely accepted interpretations of "democracy" (dictatorship by the majority).

xiii Cybernetics involves the study and design of the guidance and control systems of animals as well as machines. It is important to note that the networks of feedback loops which control the internal functioning of organisms are mostly non-hierarchical and mostly outside the nervous system. So sociocybernetics becomes the study of the largely hidden

feedback loops which guide the functioning of society ... and the design of better ones. I have to say that I have not found the work of any of the authors I read subsequently more helpful than that of Gareth Morgan (1986). But I have found some of the discussions I have encountered at meetings of the *Society for the Advancement of Sociocybernetics* (SCIO) and *Research Committee 51* (*Sociocybernetics*) of the International Sociological Association very helpful. One of these led to acquaintance with Dynamic Systems Modelling and especially the work of Jay Forrester (1971/1995).

xiv Bookchin (2005)

xv Graeber (2013, 2014)

xvi There are endless publications pointing to this conclusion, but a summary will be found in Part I of Raven (1995) and more recently in Raven (2014a).

xvii Grignon (2007).

- xviii The difficulties include such things as the way the banks arranged to have Abraham Lincoln shot in order so as to scupper his plans for interest-free money creation by the state so as to avoid having to pay the banks interest on this fictitious money.
- xix As we have seen, one outcome of this process will inevitably be that the 18 private banks who, through a cascade of linked ownerships, own the so-called Federal Reserve bank (and most TNCs) will end up owning the world. One's faith in this "self-generating", no conspiracy, perspective is, however, seriously challenged by the fact that members of the Council on Foreign Relations, who are the very same people that own and control the central banks and TNCs, have unashamedly declared their interest in using the banking system they control to establish a "New World Order" which they themselves would run (see, for example, Corbett, 2014, for a brief account of the composition and activities of the CFR).
- Chapter 11 of *The New Wealth of Nations* to trying to clarify the matter. I give several examples where a network of forces contributed to an outcome that no one wanted but, having happened, could easily be attributed to a conspiracy. Then there are examples whereby someone, or some persons, unknown, for unknown reasons, intervened in an otherwise public process to divert the course of history. Then there are cases whereby some private meeting(s) of a group of people result in the presentation or misrepresentation of proposals which will have known, but undisclosed, effects to the benefit of the proposers are presented as being to the benefit of some other or wider group that does not have access to the information needed to challenge what is being said.
- these assertions were made. Some of them lasted well over an hour. Unfortunately, I did not keep a list of them partly because I did not know where the trail was leading and partly because I wanted to check some of the assertions that were being made. (It is possible that the following might take the reader to one of the videos involved <a href="https://www.youtube.com/playlist?list=PL3696DEA6F27A3688">https://www.youtube.com/playlist?list=PL3696DEA6F27A3688</a>) Yet I did not know how to retrieve, and refer others to, the relevant sections of the videos without playing them all the way through again and noting what it said on the timer at the point at which the assertions were made. Fortunately, David Chassels came to my rescue and sent me links to transcripts of some of these or related presentations. Unfortunately, the transcripts do not cover everything that was said in the lectures. Those that are available are Griffin (2007) and Guliani (2004).
- xxii The thesis actually goes far beyond this. It is claimed that the Constitution of the United States is actually inoperative because the need to raise money to cover the debts incurred by the civil war and the freeing of slaves led to the declaration of a state of emergency in

which the constitution was to be set aside for the duration of the emergency and that that state of emergency has been perpetuated ever since by the need to raise money to pay for subsequent wars. Disputable though this may be, there is no disputing the fact that "the economy" as we know it would not exist without the activities of the industrio-military complex. Without it there would be virtually no debts ... but also very little employment of the conventional sort. The vast bulk of taxation goes toward paying the interest on debts incurred in that process.

xxiii Griffin (2007)

- xxiv See Konstantopoulou (2015) for a clear statement of the claim and see Reich (2015) for a detailed account of the process as enacted by Goldman Sachs.
- xxv George, S. (2010)
- xxvi Klein, N. (2007)
- xxvii I have to confess that I find myself to be utterly schizophrenic about this matter. I flip from a quest for explanations grounded in social forces into "explanations" couched in conventional "psychological" and "sociological" terms. Thus, at times, I find explanations couched in terms of the operation of undesirable human traits – the adulation of authority, greed, an insatiable desire to be one's brother's keeper and insist on imposing one's own values and beliefs on others by force (see Raven, 2006) – irresistible. Despite widespread assertion that many of our problems stem from a lack of "systems thinking", I am regularly struck by the opposite. Someone, or someones, devise complex schemes to orchestrate wars, financial scams, conquest, and control of political and financial structures. If "proof by example" is needed, Robert Reich (2015) has shown how Blankfein and his team at Goldman Sachs worked out how to make a fortune for the bank by first helping the Greeks to hide 2% of their "debt" and then doubling it (charging \$793 million for their services), and then devising a "rescue" package in the form of a "loan" of 2.5 billion (fictitious) Euros. But then there is the counterthought: single-factor intervention in poorly understood complex systems almost always has counterintuitive and counterproductive effects and thus, in a sense, illustrates Adam Smith's claim that the decisions are taken by committees of ignoramuses. But, then again, who cares about these unintended and undesirable effects? And how to take steps to avoid them? These are fundamental questions that sociocyberneticians and systems thinkers more generally need to address.
- xxviii Bookchin (2005). Graeber (2011) has also shown that the creation of debt with the resulting arrangements for subjugation, control, exploitation, and extortion has also proceeded and accelerated over many thousands of years.
- xxix Prior to Newton, if objects moved or changed direction it was because they were "animated", ie because of their internal properties. After Newton it was mainly because they were acted upon by networks of external forces which could nevertheless the mapped, measured, and harnessed.
- xxx Graeber (2014)
- the two. A human body is made up of numerous cells and endless interacting processes (most of which by-pass the brain ie they are not hierarchical). But, by and large, if one wishes to influence a human being, it is best to address the whole body to speak to it or imprison it not to address the individual cells or processes of which it is composed. Aidan speaks of the "Gestalt flip". Instead of seeing all the components one by one, as one could do when viewing the furniture in a room, one sees the whole. The body has emergent properties not located in the cells or the relationships between them. It can sing and dance and shoot to kill. A bank or military-industrial complex has similar emergent

properties. But how to think about, conceptualise, a wider system that reacts as "America" did to *Occupy*? How to influence it? How does it spawn banks and police forces? What are the key feedback loops in its internal organic sociocybernetic system? How does it maintain itself? What are the sensors through which it collects the information needed to respond to its environment?

xxxii The evidence to support these claims was brought together in Raven (1995, 2014).

- xxxiii It is important to note the way in which Darwin's concern with the survival of the fitting

   the way all the thousands of grasses and flowers and millions of species that constitute a meadow grow and develop and support each other in their micro-environments has, given our cultural preoccupations, been corrupted into the concept of the survival of "the fittest".
- xxxiv See Marks et al (2006) for examples of societies that approximate this ideal. xxxv Raven (2014).
- xxxvi In one sense, as Luciano Gallon has pointed out, the task is to transform the sociogrammes we already have into dynamic systems models of the kind developed by Forrester. That would be an enormous task in itself. But, more importantly, the attempt to do so should lead us to recognise the importance of so-far neglected variables.
- xxxvii Note that both the development of radar itself and the work needed to conceptualise physical force and demonstrate the value of so-doing were conducted, as it were, "under the radar". No one in their senses would have funded Newton asserting that there is somewhere an equal and opposite reaction to the force of the wind on the sails ... and that it is ... where? ... in the sea ... and it can be harnessed by ... what? ...adding a keel to one's boat!
- xxxviii An important application of Dynamic Systems Modelling to map the network of social forces operating in a particular situation, identify nodes at which intervention would be most likely to be effective, implement those interventions, monitor the results, and initiate a further round of action will be found in the *Evolutionary Learning Laboratories* developed by Ockie Bosch and his colleagues (2013).