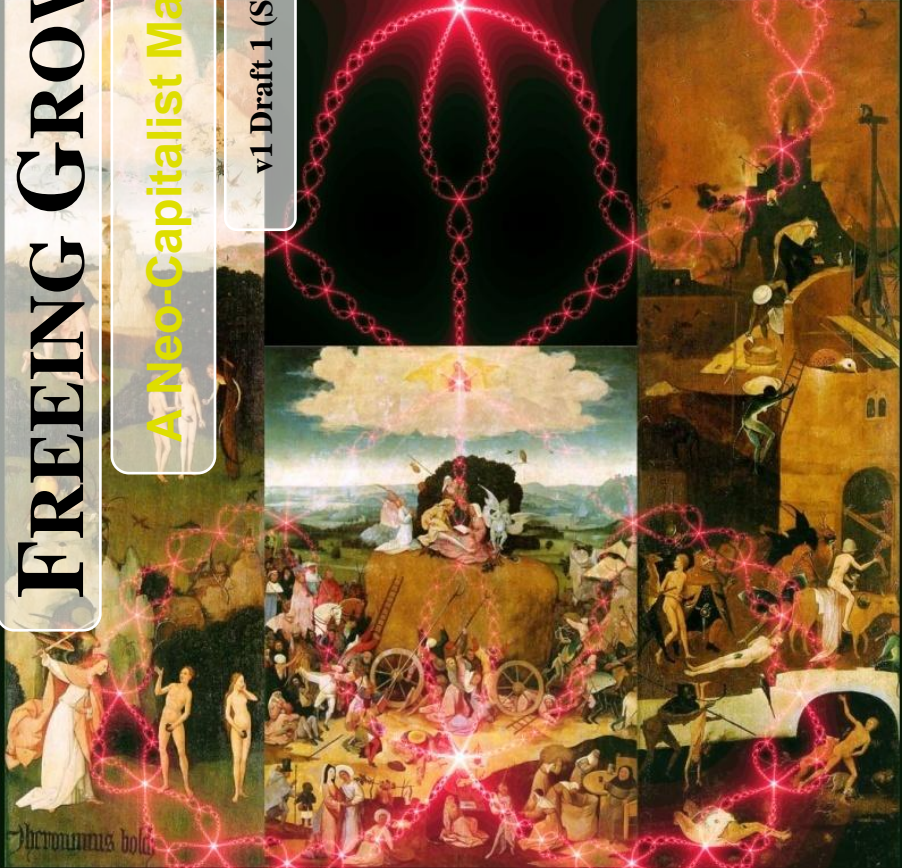


# **FREEING GROWTH**

## **A Neo-Capitalist Manifesto**

v1 Draft 1 (SVN rev 109)



**Edited by  
Niall Douglas**

20<sup>th</sup> February 2009

<http://www.freeinggrowth.org/>

<http://www.neocapitalism.org/>

A very short pamphlet overviewing our principles and proposals which offer a high-growth future for our civilisation in a time of increasing resource shortages, social unrest and stagnation of growth



# Contents

---

Chapter 1: Preamble .....	5
A True Free Market Capitalism .....	5
Chapter 2: Our Profile of the Coming Collapse.....	7
Our Prediction of the Near Future for the West .....	8
Our Prediction of the Near Future for the Rest .....	9
Chapter 3: Our Proposals .....	10
Our Economic Proposals .....	13
1. Divorce the Money Supply .....	13
2. Divorce the Accounting System.....	14
3. Tax The Bad Things Which People Do, Never What They Earn.	15
4. Divorce the Financial Markets .....	16
5. Divorce the shareholding structure .....	17
6. Stop Fighting Nature .....	18
7. Enable conversion of monopolies into consumer governed cooperatives.....	19
8. Let people look directly after one another.....	20
9. Eliminate all specific legal regulation for those which disclose all internal functioning .....	22
Our Education Proposals .....	24
10. Invest education where it has most effect .....	24
11. Grow harder rather than working harder .....	26
12. Enskill, never teach .....	28
13. Incubate <b>successful</b> creativity .....	29
14. Replace Intellectual Property with Central Ideas Database.....	31
Our Legal Proposals .....	33
15. Keep the Law Fresh .....	33
16. Parliament should define Law, not its Implementation .....	34
17. Regulate through Educate .....	35
The TBTI Proposal.....	39
18. Free the Information, Free the Growth! .....	39

**Chapter 4: Concluding Remarks ..... 45**

**Appendix A: The Assumptions ..... 47**

- 1. There will be plenty of energy available to human civilisation in the near future ..... 47
- 2. World War III will not break out ..... 49
- 3. There will be a cultural shift towards ‘smaller is better’ ..... 50
- 4. Human Beings will not suddenly start behaving better ..... 51

**Appendix B: Bibliography ..... 55**

# Preamble

---

A spectre is haunting the world – the spectre of imminent collapse caused by a perfect storm combining severe environmental degradation, severe price inflation due to demand outstripping supply of fossil energy and the temptation towards tyranny in the name of centralised control called forth by panic. With the recent accession of the US, all the major powers of the World have entered into an alliance to exorcise this spectre: politics of the left and the right, countries of the East and the West, populations of rich and poor.

This alliance intends to save human civilisation through restraining human behaviour using a centralised bureaucracy. It intends to save us from ourselves through dictating carbon permits, setting quotas and signing binding international treaties, all in the name of reasserting power over a world perceived to be spinning out of control. Their intent is noble and laudable, but their method will only stave off the inevitable for the exact same reasons as why Communism failed, as did the Roman Empire, as have countless great civilisations of History.

We believe that the only solution which can save not just our civilisation, but also our planet is to embrace growth: to free ourselves, our economy and the free market to fix what it caused in the first place. We call our detailed plan for action *Neo-Capitalism*, which literally means ‘New Capitalism’.

## A True Free Market Capitalism

It is not fashionable to say this in the current zeitgeist, but the free market is the single greatest wealth generator ever invented in human history. As world governments return to Neo-Keynesian macroeconomic policies to stave off yet another financial meltdown, we believe that collapse comes from the misappropriation of our economic engine, not the generator of that wealth itself.

Our economy has been on a war footing for a millennium: it is programmed to extract as many material resources as possible for the least possible human cost today – this is how we have perceived ‘efficiency’. Yet this need not be the case: we could program it instead to maximise its internal rate of self-improvement which is identical to the maximisation of work extracted from the utilisation of energy. Such an economy rapidly invests long-term in biosphere productive capital rather than extracting it as human profits today; such an economy maximises the rate of long-term sustained growth rather than the unsustainable short-term growth of recent history. Such an economy betters and improves the lot of all mankind rather than condemn its majority to penury and involuntary servitude.

What does this mean? This means that such an economy grows at double-digit sustained annual rates whilst simultaneously repairing all the damage done to the biosphere, to such an extent that the biosphere is in a better state by 2050 than it ever was at any time in the last ten millennia. This means that where technological progress was slow and technological understanding was confined to an elite few, in such an economy technological progress is rapid and technological understanding is widespread and considered typical. Where at present we have no shortage of human ability and brilliant ideas but a complete lack of capability and successful entrepreneurship, in such an economy human capability more closely matches human ability and people directly receive what they earn for themselves. Where large sections of the richest peoples of the world have lost their connection with God, in such an economy God is placed at the centre of all human endeavour from large to small, thus restoring the great freedom which the Prophets gave our ancestors.

While we currently have notional freedom in much of the world, in reality our practical freedom of choice is severely constrained by ignorance, poverty, incapability and foolishness – all clear signs of distance from God. There are too many penalties for being creative and taking risks, and nothing like enough reward for entrepreneurship and failing successfully.

We believe that these proposals will free the individual, the group, the society and the world. Moreover, they have been deliberately designed so they can be implemented in part or in full: the further they are implemented, the higher the growth achieved. True liberty requires giving every person and group the right to choose: better behaviour comes from within, it cannot be imposed from outside, and these proposals are designed to be opt-in or opt-out where possible.

# Our Profile of the Coming Collapse

---

This is how we foresee the next few decades of human existence. If we are wrong, then ignore us. But mark our words: if we are proven correct, then heed our recommendations.

1. As demand for outstrips supply of natural resources (namely ores, minerals, fresh water and fossil energy), their price relative to the market shall rise. Much of this price rise has already occurred but has been hidden by market distorting subsidy which has created the false illusion of price stability.
2. The monies earned through natural resource extraction shall be reinvested into furtherance of the same, thus spurring ever increasing natural resource extraction as the great Economist William Stanley Jevons predicted in *The Coal Question* in 1865 (the ‘Jevons Paradox’).
3. The bubble shall become unsustainable, resulting in a collapse of the extraction cycle. Great wealth shall be lost, people will panic and look to the government to solve their problems.
4. Government takes on ever greater centralised control in dictating the economy, stabilising but not preventing the decline. The decline slowly gnaws away at civil liberties in the name of saving us all, slowly suffocating the creative spark which is the engine of any economy.
5. Civilisation crumbles. Billions die, some in wars<sup>1</sup> but most from hunger, and humankind returns to a Dark Age which takes hundreds of years to pass.

The first of the cycle collapses has occurred: that of finance which was entirely predictable and indeed was predicted for over a decade by many people

---

<sup>1</sup> See Appendix A on page 47 for more detail.

indeed since the Enron debacle, including Nobel Prize winner Joseph Stiglitz. In response to the currency crises of the late 1990s, developing nations invested the wealth generated by their extraction of natural resources back into the West, causing a surfeit of cheap debt. This cheap debt propelled a property & finance bubble where as always with any speculative bubble, people began to believe that they could become wealthy without having to perform the work necessary to acquire that wealth (this is only ever possible for a parasitic minority, never more than that). As with all speculative bubbles, wealth was temporarily pushed into where it is not productive – namely unskilled labour and the trapped wealth of real-estate – and therefore is an unsustainable inflationary misallocation of wealth.

To date, the solution which has been adopted by most Western economies is to borrow even more of the excess wealth which caused this problem to begin with in order to fiscally stimulate their economies through grand government spending programmes. We predict that this solution will not work because this depression is **not** one of lack of demand as Neo-Classical Economics predicts, but rather one of **too much** demand given the dwindling supply. We predict that in fact this collapse is the first of a series of collapses as our civilisation goes into decline, and all that fiscal pump priming will achieve is massive rises in national debt and the return of high inflation as the excess liquidity washes out.

## Our Prediction of the Near Future for the West

To be specific in our predictions, we believe that the world economy shall continue to decline in activity for another two years until around 2011 whereupon it shall stabilise but not grow despite all attempts to make it do so. By 2015 an increasing decline in the supply of fossil fuels combined with rapidly increasing ecosystem costs as vital sources of food & fresh water increasingly become unavailable shall begin a period of general price inflation which shall require substantial monetary contraction (i.e. a large rise in interest rates) to control, thus further contracting economic activity. Due to this general price inflation, pension funds shall lose between 40% and 60% of their real value which shall require retirees to return to work, adding millions to the workforce and therefore creating a mass unemployment problem in the West. We estimate that this should begin by 2020.

In the name of creating stability and already emboldened by the relative transfer of power to themselves from a shrinking private industry, governments shall become tempted to fully utilise the surveillance opportunities made possible by modern technology. Satellites shall be linked with mobile phone position monitoring to record the movements of every citizen in real-time (see



Appendix A). Wherever there is networked information technology, there becomes possible a means of enforcing control of thought, movement, speech and motion. This will happen so slowly that few will notice: freedom shall become snuffed out by a thousand cuts. Meanwhile, people will become even more afraid of the very same technology which has fuelled our economic growth over the last thirty years – and thereby dooming Western civilisation to stagnation and decline.

## Our Prediction of the Near Future for the Rest

Despite the loss of around half their purchasing power and living within a slowly decaying tyranny, the citizens of the West shall escape lightly when compared to the rest of the world. As Vaclav Smil (2001) has reported, at least two billion of the world's poorest shall become unsupportable due to food price rises (we estimate of between 400% and 800%) and shall have to perish, thus provoking widespread discontent and mass migration towards richer zones. This shall require the West to build exclusion zones by mining land & sea and erecting walls to keep the starving out. Meanwhile, despotic governments shall merrily expend the last resources of their poverty stricken nations on weapons of mass destruction, freely using them to murder tens of millions in the name of restoring control.

The worst famines should afflict (in order) China, then Africa, then India as these are the most dependent on fossil fuel inputs or imports for their food supply (especially drought prone Asia which heavily relies on pumping irrigation water around which is especially fossil fuel intensive) – however, even the hitherto breadbasket of the United States should become dependent on net food inputs just to feed itself as huge swathes of currently productive agricultural land become useless (and that's even assuming a mostly vegetarian diet unlike at present).

Despite how bad all this may look, we do not believe a third world war will begin for reasons outlined in Appendix A on page 47.

We appreciate that such predictions seem so dire as to be impossible. However, we have calculated these models on the best available science, and we are using the exact same methodologies as eminent researchers such as Lester Brown in his *Plan B 3.0: Mobilizing to Save Civilization*. Our sole difference is that we assume a more realistic vision of human nature based on historical real-world behaviour rather than (in our opinion) wishful thinking.

Having considered our likely near future, the question emerges: what are we going to do about it? What *should* we do about it?

# Our Proposals

---

Knowledge complicates. Understanding simplifies. We believe that in order to free growth, we must embrace the following philosophy, principles and worldview:

1. We are borne into slavery: the bonds of ignorance and irresponsibility. Ignorance stems from unfulfilled ability. Irresponsibility stems from not understanding the consequences of exercising capability. Freedom can ONLY be gained from depth of understanding and skill giving forth to capability. Responsibility can ONLY be gained from understanding capability, **therefore true freedom can only be *responsible* freedom.** This truth and only this truth will set you free: he who has the capability to destroy the world, but chooses to not do so out of love, is closest to God. Such a person walks regularly in the Kingdom of God.
2. Self-improvement can ONLY come from within through love, perseverance and creativity. It can be aided, encouraged or cajoled from outside, but like love it can never be externally imposed without permission. An optimally growing society equals every single citizen growing at their optimal rate which can ONLY be achieved by each citizen and each group having the freedom to self-determine their own improvement, and to reap the consequences of that which they sow. One can never be dragged into the Kingdom of God: one must **earn** that admission.
3. It is a hard fact of thermodynamics that unstable complexity arises from the use of energy. In recent decades, we have been expending around four hundred times the amount of energy sequestered from the sun by the biosphere annually – it has become a physical addiction as our waistlines have swollen grotesquely, our blood vessels have filled with an excess of fats, our bodies have become ravaged and our minds ossify

far earlier than they should. Just as our bodies overflow with deadening complexity, our society and economy are equally suffocated by lack of powerful simplicity: witness our bureaucracies, our legal systems, our schools & universities, our financial systems and so on<sup>2</sup>. We are literally dying from too much deadening complexity dragging us down: the ONLY life-saving medicine is a heavy dose of powerful simplification.

4. Analogously, we must accept that much of our *useful* energy supply is going to drastically reduce in the coming few decades<sup>3</sup>. All currently known alternative energy solutions: nuclear, tidal, geothermal or wind, cannot supply the hydrocarbons with which we run our industries and with which we feed, clothe and house ourselves. The good news is that the use of hydrocarbons generates most of the severe environmental degradation and most disease afflicting the West, so many of our systemic problems will shortly be curing themselves; the bad news is that no one can realistically imagine a modern world without hydrocarbons at its centre. A complex legal system which requires years to punish crimes and make decisions; a penal system which costs society more per serious offender than to raise an average child to twenty-one; a cumbersome intellectual property and behaviour regulation system which spends most of its time creating fear and apathy rather than promoting growth; a healthcare system which expends most of its resources on the dying rather than upon the future; an education system so inefficient that it consumes the most productive first third of a human's lifespan – all of these things are unsustainable things of luxury made possible ONLY by massive flows of energy. All of these luxuries are simply unaffordable after the fossil fuel supply starts to decline – and this is no matter how many electricity generating facilities we build, because electricity does not (cost effectively) generate hydrocarbons.
5. Lastly, we of Western tradition split the mind & body in order to split the atom: the history of Western civilisation since Descartes has been one of ever finer subdivisions. This has been our greatest strength

---

<sup>2</sup> Witness after all how many pieces of paper a person must nowadays obtain in order to do anything at all: everything requires some sort of certificate or however many extra years in expensive third level education whether the student requires the training or not. How insecure must we have become?

<sup>3</sup> See Appendix A on page 47 for the specifics on how we have assumed the fossil energy crunch will play out.

whilst also our greatest weakness: we have both saved the world whilst simultaneously dooming it. This dichotomy is **ONLY** possible when one holds the paradox of mind and body being separate: form becomes separate from function, structure becomes separate from process, the individual becomes separate from society, the past becomes separate from the future. We both recognise the tremendous power of holding this paradox at the same time as recognising its tremendous curse: it allows man to glimpse the Kingdom of God whilst simultaneously never being able to step into it. How can this be remedied? We believe that the **ONLY** solution for the mind-body split is **to know thyself before all other things**: to know that you understand the split, what it means and doesn't mean, to realise that not acting is to act, to both believe and disbelieve in the true power of God, to render all and sundry as both identical and totally incomparable. All that has happened before is still to happen: so what are *you* going to do about it?

We believe that our future lies not in healing the mind-body division, but rather in *transcending* it. We believe that our future lies in successful failure, not failing to succeed. We believe that our future is the return to personal self-responsibility where the individual is supported by society, but is not created by society.

To that end, we quickly overview the following specific proposals which are detailed in the *Freeing Growth* series of books. We have taken many assumptions as a given in the following: see Appendix A for a list of some of these. The proposals roughly fall into four primary categories: (i) Economic (ii) Education (iii) Legal (iv) TBTI (Too Big To Imagine). Note that as far as possible any proposal stands as separate from the others as we have been able to achieve, but fundamentally we are taking a holistic approach where many small changes need to be performed to multiple parts of society simultaneously.

# Our Economic Proposals

## 1. Divorce the Money Supply

We propose the division of the money supply into three separate types: (i) animate (ii) inanimate and (iii) human revenue. Animate money ( $\text{€}_a$ ,  $\text{\$}_a$  or  $\text{£}_a$ ) denotes the contribution to biosphere welfare of alive things e.g. cows, trees, humans, insects, bacteria and so on. Inanimate money ( $\text{€}_i$ ,  $\text{\$}_i$  or  $\text{£}_i$ ) denotes the contribution to biosphere welfare of material things e.g. rocks, houses, factories, oxygen and so on. Both animate and inanimate monies purely describe *productive capital*. Lastly, human revenue money ( $\text{€}_r$ ,  $\text{\$}_r$  or  $\text{£}_r$ ) is the human-valued revenue from the fruits of these two productive capitals – or what is more normally known as ‘cash’.

For the vast amount of daily activity, one would not notice the difference as most goods transactions and almost all services transactions are in  $\text{€}_r$ <sup>4</sup> which is the normal everyday banknotes with which we are familiar. For example, purchasing a loaf of bread uses  $\text{€}_r$  money, as would attending a cinema or paying for house insurance. Even purchasing a small productive item such as a small computing device such as a mobile phone would probably be in  $\text{€}_r$ , however as a car is clearly a larger productive capital item it would be priced partially or wholly in  $\text{€}_i$  as would be a house or factory. As a clear example, to buy a farm would have three prices: a price in  $\text{€}_a$  for its livestock and agricultural capacity, a price in  $\text{€}_i$  for its machinery and buildings and a price in  $\text{€}_r$  to reflect goodwill (the human value ascribed as above and beyond a firm’s assets during purchase).

Each of these monies has a floating exchange rate just like the US dollar does to Sterling or the Euro. How much  $\text{€}_i$  or  $\text{€}_a$  your  $\text{€}_r$  can buy will change over time according to supply and demand. Each money has its own interest rate and separate monetary policy, so for all intents and purposes they are separate currencies: it is simply that much as one must buy Sterling in order to do business in Britain, one must buy  $\text{€}_a$  in order to purchase a farm or  $\text{€}_r$  in order to buy a loaf of bread.

What possible benefit does having things in two or three prices bring? In quick succession:

1. The central bank has **vastly** improved monetary and fiscal control because it can now tweak individual sections of an economy in order to

---

<sup>4</sup> By this stage one gets the point of the notation, so I will use the euro symbol from now on for notational convenience. However bear in mind that any currency symbol can be used instead.

promote growth and stability. For example, it could increase a tax on conversions into  $\text{€}_r$  (as an exchange rate spread), thus inhibiting liquidations of capital into revenue but not inhibiting conversions of capital from one kind to another. Under this proposal, the old severe boom & bust cycle is greatly smoothed out in favour of gradual natural oscillations: a new era of high-growth stability hitherto impossible.

2. A brand new form of taxation becomes possible which involves no tax collectors, no invasion into privacy and where tax evasion is impossible: **the depreciation tax**. This is a simple flat tax (probably around 10-20%) on all revenue produced in an economy which is collected by the government simply printing excess  $\text{€}_r$ , thus causing deliberate price inflation. As all human valued revenue from productive capital must run through  $\text{€}_r$ , it taxes everyone and everything equally with no tax returns, tax collection or anything else required. Better still, the inflation strongly discourages holding money in cash, thus encouraging all saving as investment into productive capital.
3. It allows separate but concurrent domain accounting systems, as covered next ...

## 2. Divorce the Accounting System

Currently the best available proposal for reigning in excessive human behaviour (e.g. cutting carbon emissions or overfishing) is ‘cap and trade’ which involves some central bureaucracy setting some arbitrary quota upon production and letting an artificial free market exchange permits for a market determined price. Our major issue with this system is that it directly inhibits holistic solutions: the market is still programmed to maximise resource extraction so cap and trade simply creates disparate pockets which rarely if ever meet.

While we cannot currently see how fish quotas might interact with carbon quotas, we believe that the free market needs to be freed to find out. **Cap and trade is doomed to fail in the long term** – only a holistic reprogramming of the free market can possibly succeed. To this end, we propose separate accounting systems for our three types of money above, each of which feeds into the master profit & loss (P&L) account<sup>5</sup> which runs balances in each type of money.

---

<sup>5</sup> This is the ‘God P&L A/C’ which has proven so controversial. In reality, it can be the ‘Universe P&L A/C’ or ‘Master P&L A/C’ if you so choose: so long as it encompasses all creation it can have any title you prefer.

Right now, most publicly listed corporations must publish their accounts annually or quarterly – this encourages short term optimisation at the expense of long term optimisation. Under our proposals, accounts are published *weekly* but with a confidence interval: this is a statistical likelihood of their accuracy which can be easily calculated by computer. All accounts are finalised after five years (for some particularly capital intensive industries this may be extended to ten or twenty years) at which point whatever remaining confidence interval is written off in order to draw a line under the accounts and therefore the performance of the firm. This proposal should prevent almost all of the accounting problems which have been dogging our corporations during the last few decades: the truth is that capitalism has sped up to be too fast for annual accounts to anything better than a figment of imagination. For example, the current credit crunch occurred because banks were in fact making losses since 2001 but their accounting systems had become substantially detached from reality. This proposal would prevent such extreme boom & bust enhancing behaviour caused by the accounts amplifying themselves over time.

The accounting system for  $\epsilon_i$  and  $\epsilon_a$  is calculated by computer according to the current best state of the art computer modelling, so a firm knows exactly what their net contribution to planetary welfare is in each of the three domains. This integrates into the economy the exact same scientific & empirically determined evidence as cap and trade does – however, it allows as much cross-domain quota optimisation as is theoretically possible. Therefore, unlike cap & trade which *has* to drag growth downwards on average, our proposal increases the sustainable rate of growth at the same time as repairing almost all the damage which has been incurred upon our biosphere.

### 3. Tax The Bad Things Which People Do, Never What They Earn

Why does government tax people's earnings which sends a signal that work and thrift is to be punished? We strongly believe in a wholesale realignment of taxation with natural social & moral forces by a massive expansion in what is euphemistically called 'sin taxes': *tax the bad things which people do, never what they earn.*

We have provided above a mechanism for raising general taxes via the depreciation tax – the revenues from this alone is more than sufficient for running government. However, we recognise that losses to the  $\epsilon_i$  and  $\epsilon_a$  P&L accounts must directly affect  $\epsilon_r$  in order to prevent conversion of natural capital into human revenue: therefore, we propose substantial sin taxes on unsustainable behaviour when performed by business. Governments however

are ring fenced into directing<sup>6</sup> this revenue into investment into the biosphere to offset/prevent/ameliorate the damage in the first place. Despite what some on the left might say, to live is to cause death to other organisms and sometimes avoiding ecosystem damage is not the optimum path for the biosphere.

We do not believe in sin taxes for individuals as they are too small an economic unit to generate useful  $\epsilon_{a, i \& r}$  accounts, and moreover any attempt to impose sin taxes upon something which is costly to monitor like an individual simply incentivises moral corruption in that person in attempting to circumvent the sin taxes (witness after all the criminal networks who subvert the tobacco sin taxes). We strongly believe that *imposing better behaviour upon people does not make them into better people*, and so we have a much better solution outlined below which unifies social & moral pressure with education (and at a very cheap price) which strongly encourages liberty. However, not everything lends itself to that scheme, and so therefore for the remainder of bad behaviour sin taxes do apply to individuals as the sole form of individual taxation that any individual or business ever pays.

Remember: under our proposals, there are just TWO simple kinds of tax. The depreciation tax is the sole form of general taxation. The sole form of specific taxation is sin taxes placed on undesirable behaviour which damages the biosphere in some way and these mostly apply to businesses not people. **Most individuals and businesses will never individually pay tax under these proposals:** this is how you genuinely encourage and incentivise growth rather than the schizophrenic approach of punishing what you encourage currently employed.

#### 4. Divorce the Financial Markets

One of the greatest headaches facing publicly listed firms has been share price volatility which generates considerable shoe leather costs in capital maintenance and raises borrowing requirements. We propose the simple solution of divorcing the investment market from the speculative market by restricting the trading of real shares to one day of the week (probably the day after when the weekly accounts are published). Meanwhile, buy and sell options are traded on a completely separate 24/7 derivatives market along with any other exotic financial instruments. One can still purchase from that derivatives market the right to purchase or sell a share at some given price in the future so the efficiency of capital allocation is maintained, however the firm itself need not worry about this: it is allocated the appropriate level of capital.

---

<sup>6</sup> We do not intend by this that government should allocate the spending – rather we mean that these monies should enter a fund which supplies a free market specialising in the solution of these things.



This should drastically reduce share price volatility whilst simultaneously reducing the costs of raising and maintaining capital – with a consequent decrease in the use of wholesale money markets for short-term credit (the current expense and scarcity of which is currently crippling industry). Capital markets are supposed to allocate capital according to risk, yet of late due to securitisation the risk has been disproportionately borne by financial services as a whole rather than upon the shareholder where it is supposed to be. If you would like the ‘credit crunch’ to be fixed so it will never happen again, this is a very good place to begin and a far better approach than the use of even more borrowing using future taxpayers’ funds as has been currently employed.

## 5. Divorce the shareholding structure

Currently if a shareholder uses insider information to dump their shareholding just before a firm becomes insolvent, they carry no penalty despite having had voting rights and therefore bearing some responsibility for that firm’s behaviour. As any statistical analysis of the stock market will show you, sudden favourable share trades just before the announcement of especially bad (or good) news is extremely common which shows how endemic this problem of asymmetric information is<sup>7</sup>. We believe that not only does this moral hazard cause severe moral decay in the financial sector, it also severely impedes the efficient long-term allocation of capital to the detriment of long-term growth.

Furthermore, we also see a substantial problem in the current application of limited liability because it creates a further problem of moral hazard where shareholders do not take sufficient account of a firm’s risky behaviour: in particular, speculators invest and divest with absolutely no thought given to the practices of what they are putting their money into. Limited liability pushes risk away from investors and onto other firms and society who must then absorb losses as we have just witnessed with the banking sector. This greatly increases the uncertainty of doing business and therefore inhibits growth – however, we do recognise that without any limited liability most investors would keep their money in the bank which simply transfers all the risk of investment onto the banks (which seems especially foolish at present because investors being so risk-adverse got us into this situation in the first place).

We propose another simple solution: modifying the share structure by divorcing ordinary shares into two types: voting and non-voting where voting shares have a variable limited liability (i.e. their liability ratio can be between

---

<sup>7</sup> For example, despite the claim that the aircraft attack upon the World Trade Centre in New York in September 2001 was not anticipated, large movements on the stock market regarding the affected companies clearly shows that *someone* knew enough to make a very great deal of money indeed.

1.0 and say 4.0 of their investment value<sup>8</sup>) and that liability extends at a declining rate for a period of six months past the disposal of the investment. This allows institutional and individual investors who wish to only have indirect influence over the operation of the firm<sup>9</sup> to risk no more than the capital that they invest; equally, those who wish more direct influence must take on some additional risk to offset the added value of voting power.

It is expected that this one measure should greatly reduce the power of pension funds relative to individuals<sup>10</sup> who have been effectively shut out of publicly listed firms since the Second World War by the size of pension fund holdings – much as the great Economist John Kenneth Galbraith illustrated. This has allowed individuals to believe the patent untruth that corporations are separate and distinct from themselves, and that therefore that when a corporation murders some babies out in Africa that it does so because it is evil rather than because the average Western consumer and pension fund would readily prefer cheaper chocolate bars over saving African babies. We believe that business must return to being loved and respected by every individual for strong growth to return: otherwise, ‘public ownership’ of the deeds of multinational corporations is impossible and anxiety from the internal conflict within the employees torn between doing well at their job and inflicting suffering saps worker morale.

## 6. Stop Fighting Nature

A very great deal of human effort is expended upon activities which fight natural forces. These are a waste of resources and are a luxury made unaffordable by the coming hydrocarbon crunch. There are far too many of these in total to count, but we consider the most pressing general categories to be:

1. Breaking up monopolies in the name of promoting competition/Subsidising competition where a natural monopoly is proper.
2. Market distorting subsidies of stupid, even monumentally idiotic behaviours on a mass scale – we particularly think of agriculture here.

---

<sup>8</sup> We propose that this liability ratio may be altered in response to economic conditions by the central bank as a tool of economic stability.

<sup>9</sup> Needless to say, a large investor can have considerable indirect influence by threatening to divest their holding if certain things do not take place. This is no different to the present case.

<sup>10</sup> This is because pension funds and other institutional investors must by law reduce risk as much as possible – this implies that they would mostly hold the reduced risk voteless ordinary shares.

3. The provision of what should be local services by a centralised, usually national bureaucracy. This particularly affects corporations (e.g. food miles), not just government.
4. The use of legal remedies for moral, social and personal issues which strongly incentivises and therefore generates endemic moral corruption.

Despite that wholesale destruction of vital biosphere services is the clearest example of us fighting Nature and therefore of us fighting ourselves out of sheer spite, unlike many on the left we feel that the removal of cheap hydrocarbons will remedy almost all the most important of these problems. As an extremely simple example, overfishing much past the coasts becomes extremely hard without hydrocarbons. Equally, marine eutrophication and land desertification become much harder without cheap hydrocarbons to generate the excess nitrates. We are not saying that we should do nothing and let the imminent hydrocarbon scarcity fix all our problems – we are saying that we have far more pressing issues and to be honest, Nature will heal herself very quickly indeed if she is given a chance<sup>11</sup>.

We specifically tackle the above four most pressing categories of us fighting Nature in the coming proposals. In particular, we see great opportunities for profit and substantial sustained increases in growth if we take economic, social and moral advantage of natural phenomena.

## 7. Enable conversion of monopolies into consumer governed cooperatives

The Rochdale Principles laid out the concept of a non-socialist consumer owned cooperative as distinct from socialist worker cooperatives – we propose the creation of a closely similar new kind of economic entity: the consumer *governed* cooperative which is a fusion of a consumer owned cooperative with a traditional shareholder owned corporation.

The consumer governed cooperative is one where all voting shares are held by consumers in proportion to their trade with the firm (thus leveraging the divorcing of the shareholder structure proposed above) – therefore, the customer literally controls the firm and moreover, receives dividends according to their proportion of trade with that firm (though none of the liability). This eliminates the possibility of consumers being abused or ripped off by a firm because any excess profits are returned as dividends, and should a consumer

---

<sup>11</sup> There is this great belief that Nature is somehow delicate. This is utter bunkum – Nature is extremely robust. It is *we* who are delicate because a minor sneeze of the biosphere would eliminate almost all human beings overnight.

governed cooperative really abuse its consumers then they can literally replace the Board of Directors.

A consumer governed cooperative can come into being through being initially incorporated as such or by any publicly or privately owned firm putting it to a vote of its shareholders. However, we go one step further: we propose the elimination of almost ALL regulatory requirements for larger consumer governed or owned cooperatives because such firms implicitly do not require external regulation – this provides a significant incentive towards conversion for all large and complex firms, particularly multinationals many of whom are bigger than the governments which try to regulate them.

We furthermore make one additional proposal: that any larger<sup>12</sup> privately or publicly owned firm can be converted to a consumer governed cooperative by plebiscite of its customers. We propose this on the basis of the success of democracy: the population have ‘one big stick’ which they can wield once every four or so years, and if it works for something as big as government then it certainly will work for a multinational corporation. We believe that a far improved way of ensuring outstanding customer service by monopolistic firms is to give its consumers a similar kind of big stick to wield should things become particularly bad – meanwhile, intrusive regulation can be dispensed with for the most part as it is inefficient, expensive, generates considerable uncertainty, wastes resources and incentivises moral corruption and deviousness.

All these proposals when combined particularly remove the need to prevent mergers, regulate behaviour or artificially introduce or prevent competition: all of which fights natural behaviour and wastes resources. Far better to let consumers and larger firms regulate themselves without external intervention – this proposal helps to enable this.

## 8. Let people look directly after one another

Currently most nations employ some mix of nationally subsidised and privatised health service; elderly & poverty provision; schooling; welfare; transport, energy, telecommunications & water infrastructure and so on. All of these are natural monopolies due to one of:

1. Extremely high fixed capital requirements (e.g. laying cables).

---

<sup>12</sup> We use ‘larger’ in this proposal to mean a firm with a lot of regular customers – say more than 10,000 – and that no one customer exceeds 40% of sales. As covered in the *Freeing Growth* books, consumer owned or governed cooperatives are a bad fit for smaller firms or highly innovative firms or industries: they only really suit big, mature industries which tend towards oligopoly or monopoly.

2. The long lag time between doing a behaviour and paying for its consequences (e.g. smoking tobacco, overeating).
3. The public good nature of the facility. A public good is one where it is hard to get the many individuals who could make use of the facility to pay for it e.g. a fireworks display.

These ‘big’ services are highly valued by society and therefore are highly regulated and usually heavily subsidised from the public purse – however, they also tend to be hard to charge people the direct cost in an obvious way: to expand upon the above example, how many people would feel happy charging a terminally ill tobacco smoker their direct costs at the point of illness? One might feel that as a point of principle that they should in order to dissuade others from following a similar path, however we feel that no right minded person would much like the reality of it in practice. Compassion is an underrated virtue, yet by spreading out these costs onto everyone regardless of their behaviour simply rewards stupidity and punishes looking after yourself.

To this end, we propose that consumer owned or governed cooperatives should fill the gap. Government has no business involving itself into welfare, healthcare, schooling, elderly & poor or any other issue which is a *local concern*. Communities need to organise themselves to look after themselves – of course, government has a role in promoting and ensuring a locality doesn’t keep putting things off e.g. a particularly severe name & shame sin tax may be applied to a locality which won’t organise its own welfare system or won’t provide for its poor (and by the way that sin tax is simply taken away and not refunded). And of course government has a role in ensuring that a local cooperative does not become protectionist by ensuring that its structure is orientated towards meritocratic growth rather than providing pork for local friends & relatives – in particular, government can guide and illuminate by helping ensure that cooperatives share and distribute their knowledge widely<sup>13</sup>.

Many will quite rightly be alarmed at this point as we appear to be ignoring the dangers of too many large localised cooperatives: after all, the single most notable feature of the last century has been the ever increasing transfer of power and resources towards ever larger centralised bureaucracies (e.g. the EU in Europe and the Federal Government in the US). This has done much to eliminate the parochial inefficiencies of the past where local power gave into local concerns thereby grossly distorting the free market and deeply inhibiting

---

<sup>13</sup> One way is to force each locality to swap say 5-25% of its operations with neighbouring localities. Neighbouring localities tend to be the most opposite e.g. wherever you find a particularly poor area there is usually a particularly rich area nearby. Such disparities are an untapped goldmine for enabling a system to regulate itself naturally without needing external inspectors.

growth – however, it has also created a sense of alienation in people from their local communities which has not helped to inspire them into taking initiative. We acknowledge Isaiah Berlin’s concepts of positive and negative liberty<sup>14</sup>, and we believe that Western civilisation has experienced too much negative liberty.

In truth, we would be far more concerned with the suffocating dangers of too many big cooperatives if it were not for our education proposals below. Given the revolutionary & extremely disruptive nature of these education proposals which empower people with skills, capability and creativity, we believe that outsourcing these big public services from government into the inherent conservatism of local cooperatives is a very important, perhaps vitally so, stabilisation mechanism without which all the excess creativity would destabilise and likely destroy our civilisation.

We freely admit however that we are cranking up both the explosive and restraining elements in parallel under the assumption that the two will sort one another out. This assumption is not taken for granted and is explored in detail in the *Freeing Growth* books.

## 9. Eliminate all specific legal regulation for those which disclose all internal functioning

One thing implicit in any consumer owned or governed cooperative is that the public effectively have complete access to the internal workings of the business because it doesn’t make much sense for it to be otherwise (after all, the owner has a right to know how their business operates and if the owners are lots of people then there isn’t much point in marking something as confidential). This sense of openness is particularly noticeable in the UK’s Cooperative Group which is the world’s largest consumer owned cooperative – yet it certainly hasn’t impacted strategic success nor profitability even with the credit crunch.

We strongly feel that regulation simply creates an incentive to obscure your activities just in case you are breaking some law (the law has become so complex that it has become extremely hard to know if you are behaving legally or not). Hiding one’s activities inhibits the dissemination of innovations and learning from the mistakes of others across wider society and is therefore a major drag on growth – therefore, we propose the killing of many birds with

---

<sup>14</sup> These concepts alone are worth a book or two, but in short negative liberty is where the individual has total freedom so long as they don’t change much around them. Positive liberty is when an individual has the freedom to gain a group following sufficient to transform an entire civilisation. Due to the threat of Communism, the latter has been severely curtailed throughout Western civilisation during the last century. Cooperatives particularly enable positive liberty when compared to privately owned profit seeking firms because they inspire the belief in individual consumers that they can make a difference to the big firms from which they buy.

one stone by proposing the elimination of almost all regulation for those companies which disclose ALL internal functioning to the public.

When we mean all, we really mean all: we mean every email, memo, fax, letter, telephone call, account, web page visit, list of customers – the lot. We even expect that cameras are fitted internally which observe and broadcast the internal functioning of the firm live on the internet, that all employees are tagged with location aware microphones (which can be temporarily disabled by the wearer if needs be) and furthermore that a history of all this information is kept on a public server for a given time period, say for a minimum of six months with the more important material held for up to ten years.

This allows academics, researchers, competitors and most importantly of all, the company themselves to study the firm's performance and behaviour. Why does one firm (or a department or subsection within a firm) find some magic secret to rapid growth and success and yet a dozen others fail? Is it truly down to having the right calibre of people in the right place at the right time as is so often assumed, or it is more a matter of organisational culture, or visionary management? The truth is that no one actually knows: despite the pages of the Harvard Business Review being stuffed with all sorts of fancy academic theories, there is also a very obvious lack of substantial empirical evidence. If we want to truly free growth, we need sufficiently intimate access to the workings of business for study and this proposal is vastly more useful in getting to the nub of things than balanced scorecards or personnel interviews.

This proposal rewards firms and their employees for making themselves 'naked' by removing the onus of regulation. This is possible because when any customer can literally review the case of mistreatment of some other customer, there really isn't any need for enforcement of legal rights as the free market provides succour. Should a company consistently mistreat its customers, the evidence will be plain to see for anyone and customers will go elsewhere – and so will employees should management mistreat them (actually it is more likely it will be that bad managers will be shown for what they are, and thus they must leave rather than the workers).

Many will say that this proposal is untenable because of the intrusion into workers' privacy – yet we feel that the privacy problem arises when management has exclusive access to such information and therefore use it to abuse and bully employees. When *everyone*, including your relatives, friends and strangers, has access to as much information as everyone else then it becomes a different problem entirely. We extend this proposal much, much further later on – meanwhile, this more limited proposal stands separate from what is proposed later.

## Our Education Proposals

### 10. Invest education where it has most effect

We expend a lot of resources on education: most parents will remember making personal sacrifices for the benefit of their children especially when they were young and the parents were relatively much poorer. Most children in the West must compulsorily attend school until sixteen, or increasingly eighteen, whereupon the more wealthy ones will attend university until twenty-two (or even twenty-four with the rise of postgraduate qualifications) – throughout this time, most children are not productive members of society despite being in their prime of creativity and ingenuity (as any parent of an inquisitive and energetic three year old can tell you!). Wherever you go in the West, the average cost to raise a university-educated child tends to roughly approximate the cost of an average house – no wonder then that the birth rate has slumped and that couples wait until their thirties to begin despite the severe negative effects that this can have on the child's and their own health.

The tremendous problem with mass education is that it is mind-bogglingly inefficient: because a class of twenty to thirty trapped inside a room must proceed at a standardised rate broadly determined by the examination system, the brighter pupils are so underutilised that they often turn to destructive behaviours such as promiscuity and drug abuse in an attempt to mitigate the boredom, while the less able students become disruptive out of frustration. We like to pretend that school today is rather like when we were children, but this is a rose-tinted utopian fantasy: much like contemporary music videos, school today mostly consists of a cynical dog-eat-dog jungle where violence and sexual objectification abounds: in particular, the rate of sexual abuse of students (and even teachers) by little children is skyrocketing across the Western world, and the only reason that we can think of why this is not more widely acknowledged by society must be a profound denial of the evils which we must have done to cause a seven year old to rape other children.

As the *Freeing Growth* books illustrate, these patterns and experiences are repressed by many of our most successful students such that the A-grade students who win access to the most elite universities find a world pregnant with systematised date rape, deeply unhealthy compulsive behaviours and a level of coercive group denial which bodes very poorly for our collective future. No wonder after all that our corporations strip-mine the resources of the natural world when their elite executives strip-mined the resources of their school & university experience: at best our mass education system generates cynical psychopaths who are extremely adept at fooling others (after all, what else can a system based on fooling examiners do?), at worst it leaves our young



disenfranchised, incapable, ignorant and dependent on welfare for the rest of their lives.

We acknowledge that mass education has succeeded in one single area: it has achieved a fairly universal capability in reading & writing, and that one capability has contributed very significantly to economic, social and personal growth without which the 20<sup>th</sup> century could not have been. However, that gain concluded itself some thirty years ago now – since then, the average member of society is as ignorant & incapable today as they were thirty years ago (and on some measures such as general awareness they are significantly worse). We therefore take the position, considering the empirical evidence, that **the mass education system has failed** in its primary purpose of educating society. We therefore propose a complete & total replacement of the education system in its entirety.

Our primary observation is that we know from mountains of evidence that children have learned more than half of what they will **ever** know by the age of **five**. Why therefore do we invest a tiny fraction of what we put into third level universities into the education of the under-fives? From the scientific evidence that is a tremendous waste of resources and moreover is mostly a tax funded subsidy of the middle classes and multinational corporations. If continued, this astonishing misappropriation of resources will ruin us.

We therefore propose first & foremost that five percent of our economy be allocated exclusively to the education of the under-sevens. Class sizes should not exceed three maximum per teacher and classes should begin from the age of between three and six months old (which empirical studies have shown is by far the best time to teach children mathematics). We explain our proposals in much greater detail in the *Freeing Growth* books, but the **minimum** that we expect upon completion of school at the age of seven is that every child can read, write, understand mathematics to a topological level<sup>15</sup> AND teach themselves new skills through self-directed research.

Many think that such a standard is so high as to be comical. We have found a strong correlation between the intensity of their mockery and their emptiness as a human being. No one who has witnessed the tremendous power of a child

---

<sup>15</sup> A topology is like an abstract stretchy sheet which you can manipulate: it is currently considered much harder than calculus (indeed, calculus is a prerequisite of topologies), in fact one currently needs to study maths at a postgraduate level to really sink one's teeth into topologies. In order to instil this into the general population, it will require a significant reworking of how mathematics is taught: away from the arcane symbolic notation used at present in favour of a holistically integrated *practical* approach where **every** subject, indeed everything in life, is approached from a non-linear fractal topological perspective much as animals and indeed ourselves naturally do as part of being perceiving the world through cognition. One need not be able to manipulate arcane symbols to understand and perform mathematics; equally we need to stop fighting our natural predilections by imposing an unnaturally abstract method upon the student.

at play can be anything less than shamed with how we waste its potential. In particular, we realise our age most pertinently when a four year old runs mental rings around us – anyone who does not realise this at the time is impoverished.

From the age of seven onwards children ought to be available to the workforce: seven year olds have an abundance of energy and they should be working in the low end repetitive and labour intensive jobs for which children are ideally suited. Indeed, children have always worked from this age onwards throughout human history: we only very recently stopped the practice as part of our campaign against child exploitation in general. This Victorian-era myth of the carefree and innocent childhood is a luxury made unaffordable by the coming hydrocarbon crunch – whether we enact this proposal or not, children will have to return to work as civilisation decays and we would greatly prefer avoiding a return to child exploitation.

We most certainly do not propose a return to the child workhouses of old. No, the next proposal reforms what work is in the first place and not just for children, but for everyone.

## 11. Grow harder rather than working harder

Our next proposal is perhaps even more radical than putting seven year olds to work: we know from mountains of empirical evidence that creativity requires free time, not just to implement an idea but also to come up with it in the first place. We also know that creativity is generated primarily by experiencing disruptive thoughts and is hampered by excessively repetitive routine. If we truly want our society to maximise its growth, we **have** to tackle the lack of successful creativity in our society.

To this end, we propose that income tax begins no earlier than after twenty hours of work or its equivalent per week – in other words, if you work for twenty hours or less, you pay no income tax. *Tax the bad things which people do, never what they earn.* There is nothing stopping anyone working forty, sixty, eighty or more hours a week, however for multiple reasons it is an unproductive behaviour for both themselves and society and therefore it needs to be taxed as a sinful behaviour.

And what should they do for the remainder of their time if only working for twenty hours per week? We propose that they be paid out of the depreciation tax to educate themselves in new skills, so if a person wishes to maximise their earnings then they would spend twenty, maybe twenty-five hours per week working and the remainder taking skills-based examination modules in order to gain qualifications in the practice of various skills. Obviously these modules pay more for harder and more desirable skills, but they also pay more for higher grades (we propose a market driven allocation system which dynamically

adjusts the pay per module according to market conditions, so while there is a lag between adjustment of pay and the needs of society, society does not want for the correct kind of skilled labour for long). There is no minimum or maximum time period for which to gain a skill qualification: progress is as fast or as slow as the student wishes. Some students may be able to handle five or six skill qualification modules simultaneously; others may prefer one at any given time. Most importantly these skill qualification modules need to be short: we have suggested a preferred maximum of roughly eighty hours of study per module. This corresponds roughly to one month, and we have proposed that the examinations are held at the end of each calendar month (except December).

Therefore our seven year old being almost entirely unskilled relative to other workers would get the lowest paid jobs, and therefore has a high incentive to gain skill qualifications because these pay a lot more relative to other work – in fact, most seven year olds would likely work only a few hours per day because studying is a far more economically productive use of their time especially considering the potential gains in future earnings. The better they are at teaching themselves new skills, the more rapidly their income will rise both in their job and the higher the price of skill modules available to them. Unlike the present school system, each student can proceed at their own pace and more importantly, they can take whichever subjects they find the most interesting which is a significant incentive for study.

Where do teachers, schools and universities fit into this? Without doubt the social element to learning is extremely important and we do not doubt that most students will struggle to teach themselves the finer points of a skill without an experienced instructor to help. The student is being paid on the basis of skill gained and grade received and we see no reason why an instructor could not be given a cut of that payment in return for services rendered. We believe that government introduced mass education for the best of intent, but its bureaucratic execution has severely stymied good education where there is every incentive to do the minimum possible and very little incentive to customise teaching for the student (i.e. students are made to conform to ‘the programme’ rather than vice versa).

We go far further into detail in the books, but we do not believe that universities are doomed under these proposals despite that, if successful, our proposed system obviously eliminates the need for any formal third level education system in its entirety. We admit that our models show that between two thirds and three quarters of universities shall have to close and the scope of the remainder shall become greatly curtailed. However, these closures have nothing to do with these proposals – the same proportion will close anyway after our civilisation has completed its descent because as we have said so often

already, the current ‘obese’ third level education system is a luxury only made affordable by cheap hydrocarbons, a wish to subsidise the children of the politically important middle class and a bribe for the R&D departments of multinational corporations. Thanks to its selection system (actually an ‘exclusion of anything different’ system), most of its academics are incapable of anything other than incremental creativity and successful entrepreneurship is severely misdirected into internal politicking. Imagine how many lecturers nowadays could earn their salary purely through spontaneous donations given by their students (as it used to be before World War I) on the basis of their lecturing ability? Even the good lecturers barely hold a room for more than a few minutes due to the typically dire presentation of irrelevant material. We are long overdue a substantial correction of demand & supply in this part of the education system, and that correction will come no matter these proposals. We are confident that what survives of university will become a beacon of blue-sky innovation which enables man to reach his potential. We even predict that the primacy and public high esteem of university, as professed in the 19<sup>th</sup> century by Cardinal John Henry Newman, shall be restored unlike the public derision and scorn it currently so rightly invokes.

## 12. Enskill, never teach

How many of you are just as good with mathematics as you were when you left school? One of the most staggering things about our mass education system is that it effectively dumps you at the end of it: thus where the student was once reasonably capable, through lack of practice they quickly lose their capability and ossify in almost every area. What is the point of proceeding through all those years of schooling if one forgets almost all of what one learned? No wonder that ignorance, fear, inability and stupidity abound at every level in our society: we all have a profound insecurity that we are no longer as good as we once were, and that perhaps we do not deserve what we earn. When combined with overwork, this translates into obesity, heart disease, anger, hatred and all the stress-related diseases which epitome our society.

The simple solution is to expire skill qualifications after a period of time, without which one is no longer entitled to the job which that qualification allowed. As aforementioned, we have proposed a free market based skill module setting system which attempts to match the curriculum of each skill module to what society needs and is capable of over time, so skill modules change far more rapidly than at present. Under our new education system, this requires all citizens to regularly retake a given subject area over time which achieves two things: firstly, it keeps every member of society as fully up-to-date with the state of the art as possible whilst not exceeding their particular

ability, and secondly it both maintains the capability within that person and *self-confidence* in that ability over time. One maintains a wide spread of capability such that the perverse problem of graduates in Mathematics being no longer capable of simple arithmetic disappears forever.

We propose a hierarchy of interlinked skill modules which become more and more interdependent as difficulty increases. Towards the top of our hierarchy the skill modules become increasingly creatively based in order to guide students towards the generation of practical innovations which synergise the universal patterns which weave our Universe together. We take the view that our best students should be the most creative AND practically useful entrepreneurs possible, who actively contribute at every level to economic, spiritual and philosophical freedom and growth. Too often at present it is culturally more sensible to not rock the boat: such a society can never grow quickly.

We go considerably further in this concept of limited lifetime skill qualifications later on in our proposals regarding Law: in particular, we advocate earning the right to freedom before freedom can be exercised.

### 13. Incubate **successful** creativity

One cannot instil successful self-directed entrepreneurial creativity into the under-sevens without tackling the whole environment of the young child: the younger the person, the more their mind roams free and picks up on things which adults can no longer perceive. Too often the efforts of a successful teacher will be ruined by any one or more of parents, siblings, peers or indeed other teachers. The ONLY way to maximise a child's capability is to optimise all of that which surrounds the child. Moreover, there is a severe time limit upon this process: if you haven't succeeded by the age of seven, then you are highly unlikely to do so later on no matter the resources invested (note however that what is instilled before seven can take decades to emerge – as any victim of child abuse can tell you).

We are very certain that almost all new parents-to-be would elect to undertake child-rearing skill qualifications in the months preceding the birth of their first child and indeed would likely carry on with more advanced modules as the child ages. Unlike at present where fifty hour plus working weeks are common for both parents in white collar Western families, under our proposals parents have the free time to participate in the raising of their children – with much of the anger, frustration and stress of overwork removed. Unlike at present where parents are often locked into undesirable job positions and career paths, under our proposals they have more than ample opportunity to improve their prospects through self-education, starting a new business or even taking a

second job on a trial basis without having to hide the extra hours they are working from their current employer. Imagine already the profound improvements to morale, worker allocation, productivity and the reductions in costs to business caused by sickness, depression, training costs and burnout.

We have particular issue with the current orientation of the examination system around theory rather than **personal** practice: this alienates the student from their education in a way which appears to us to be intended to generate a barrier from the successful exercise of practice, and therefore successful entrepreneurship. For example, successfully telling lies and getting away with it is a cornerstone of success in Western civilisation, yet have you ever seen a class teaching practical lying skills? Where are the classes teaching critical thinking, a capability so devoid in graduates that it truly beggars belief? While Shakespeare's writing illuminates the English language with grace and wisdom, what direct relevance does his writing have to the teenagers forced to study his works? If you wish to destroy any passion for the English language in the majority of students, the typical Western English school curriculum is almost perfect. The same certainly goes for the 'hard facts' based History curriculum whose irrelevancy is guaranteed to put off most of its students from ever touching History again: perfect for enabling students to forever more repeat the mistakes of the past. No wonder then that we have driven our planet into a death spiral, our morals into the pits of Hell and that we systematically murdered more people during the 20<sup>th</sup> century than in all of preceding human history combined.

We say this: to incubate **success** means instilling into our young the capability to successfully **fail** again, and again, and again until the Eureka moment occurs. This is currently considered the exclusive purview of the scientist and the businessman: we say that this above all needs to be a universal capability.

The ideal human being is someone who has the power to destroy all which surrounds them, yet possesses the wisdom and understanding to know that growth is best optimised by leaving things alone (apart from an occasional nudge). Such is the Nature of God Himself: true freedom equals knowing to NOT make use of the power of God, because true freedom can only result from not denying another's freedom. Our insecure obsession with control and domination equals an obsession with short-term success which is the guaranteed path to long-term failure. Only through embracing success at short-term failure can long-term success become possible, and only through this can we ever find security within ourselves and therefore the salvation of present human civilisation.

## 14. Replace Intellectual Property with Central Ideas Database

The single most notable characteristic of any burgeoning civilisation is always a sudden flourishing of new ideas. To date, Western civilisation more than any other in history has liberated the dissemination of ideas: it is the foundation stone of our culture and unparalleled success.

Yet ideas are dangerous because **ideas unpredictably transform that through which they pass**. We agree that ideas need to be controlled, however we struggle to think of a system of control worse for growth than the concept of Intellectual Property. We have little problem with Trademarks: these are useful. We have considerable issue with Patents which tend to inhibit growth more than they promote it – and furthermore, the patent system is grinding very obviously to a halt in recent years under the sheer weight of patent litigation. Our greatest difficulty however lies with Copyright which we hold as one of the most insidious, dangerous, unhealthy and stupid ideas to have ever been invented by mankind. Our economic modelling shows that were it not for Copyright in computer software alone, average Western economic growth would have been one third higher since 1980. To put that in perspective, that equals the not insignificant addition of between ten and fifteen percent of those unemployed to the workforce since 1980.

The main cause of these problems is the high initial but near-zero replication cost of Intellectual Property: unlike physical property which creates scarcity the more it is replicated, Intellectual Property creates scarcity by a *lack* of replication. This is a perfect example of our economic system fighting its natural self: more economic resources have been wasted on this one internal conflict during the 20<sup>th</sup> century than in both World Wars put together.

Our solution is radical but cheap to implement: we propose a central ideas database where people can place ideas and content such as movies, music, books, art etc. People can then download as much or as little content as they please with part of the depreciation tax paying the most popular producers of content and ideas. For example, if someone uploads the design for a revolutionary new kind of improved pump, its designer is paid proportionate to the total economic contributions made by the use of that pump. This contribution can be calculated thanks to the divorced system of accounting outlined above, but also because by making the content free one aligns natural social tendencies towards sharing with increasing economic growth. Gaming this system becomes only possible when one person can pretend to be many other people, and that is only possible because our information security infrastructure is so appalling.

In a truly free society it should be extremely easy to be anonymous but extremely hard to imitate another. Our increasing paranoia and confusion of

anonymity with insecurity, or secrecy with power and security when it is anything but, is purely because of the half-arsed implementation of information security protocols within our society: for example, no matter how much information one possesses, it simply should not be possible to gain access to another person's bank account without their prior approval. Equally, it should not be possible to fake a communication from another person, nor ever use another person's computer data without their prior approval. Simultaneously, it is currently too difficult to electronically send information to another completely anonymously, with all the obvious incentives for tyranny this creates. If left unchecked, we wholeheartedly believe that these problems will eventually destroy our civilisation from within.

How we propose to fix these problems is several books in themselves, but in essence it involves reorientating our information structures at a deep and profound level. Currently information is held separate from that which interprets it: a mind-body distinction, and the source of great insecurity and wasting of growth potential – our proposal does some very interesting things in reuniting information with its potential. Douglas Engelbart began to show us the way in 1968: yet look at how poorly we have implemented his vision since. It is becoming time to knock the breadth of vision far beyond Engelbart's: we can propose a solution which truly maximises the potential of human effort, but it will require others to fully realise it<sup>16</sup>.

---

<sup>16</sup> That said, we have a few ten thousand lines of programming code ready to go. See <http://www.tnrev.org/> for more details.



## Our Legal Proposals

### 15. Keep the Law Fresh

Politicians obtain and maintain their employment through popularity with their voters: it is however not a job which requires intelligence, knowledge or even ability. Because of this, politicians rarely write the text of the laws which they enact – even if they had the spare time, few possess the capability to write Law well, so this function is usually performed by special interest groups, a civil service or a politician’s legal staff. Unfortunately, Law being Law, there is a definite tendency towards tedious verbosity and politicians, like most ordinary people, are often defeated by the sheer scale of Law.

Hence, we have landed ourselves in a most unfortunate predicament: (i) there is far too much Law in force for any one human to even remotely hold in their head at once, hence (ii) Law is falling increasingly into disrepute because so few know whether they are breaking the Law or not so it becomes a matter of proceeding anyway and paying the fine *if caught*, thus (iii) the Rule of Law is breaking down, our prisons are swelling, our corporations (usually inadvertently) make a mockery of justice and the average educated person has never physically laid eyes upon a legal text even once. This obesity of Law, and it IS a disease clogging the arteries of economic growth just as much as a human heart, will suffocate human civilisation if we don’t do something profound about it soon.

Our proposed solution is a hefty dose of powerful simplification: in particular, to stop adding even more Law to an already swollen rulebook because more is not always better. We propose that we enable politicians to actually know what policy they are setting by restricting the length any Law passed by them to just two thousand words: a *legal directive* rather than a legal specification. Furthermore, we propose that all the Law of a land be restricted to just four hundred thousand words, or one fairly large book which anyone can read and fully comprehend. If new Laws are passed which cause the word count to be exceeded then they cause the automatic expiry of the oldest Laws in the four hundred thousand word corpus: this encourages lawmakers to intentionally expire Laws as they set new ones rather than the current situation of constantly adding even more Law to those currently in force. Even if a Law isn’t expired in this fashion, it may well be wise to always have an automatic sunset provision in all Laws of no more than twenty years in order to ensure that Law always remains current and appropriate for present circumstances.

We recognise the no doubt horror that such a proposal will bring to the Legal Profession: we will be accused of destroying the basis of Western civilisation. However, nobody can respect the Rule of Law if nobody can

*understand* the Rule of Law: most of the criminals seen by our courts have absolutely no idea of which specific crime they are guilty nor its potential punishment. Everyone knows that murder is wrong, yet only a handful of citizens know what the punishments for each degree of murder is – no wonder then that the would-be criminal is not disincentivised from committing the act! We can think of no better dissuasion from premeditated criminality if any would-be criminal could open the master book of Law and see for themselves exactly what the punishment would be. Equally, what better inspiration towards initiative when one does not fear unknown legal consequences!

If you might think this proposal impossible due to needing more Law than we have allowed for (e.g. through international treaty commitments), remember that we have eliminated almost all regulatory Law in both business and in personal life. We have also moved almost all government provision of public goods into consumer owned or governed cooperatives which inherently regulate themselves. We have fixed the problem of monopolistic abuse of the consumer by large firms, we have removed most of the incentive towards crime through our aspirational new education system, we have changed the economic system such that it now invests in the Biosphere rather than consuming it and we have replaced Intellectual Property Law – in fact, from our studies of where the Legal system expends its resources, almost all of the current Legal system is no longer necessary under our proposals. Put quite frankly, the system looks after itself and the courts can return to pondering far weightier and more important issues which actually matter in the long run, much as they once used to in the late 19<sup>th</sup> and early 20<sup>th</sup> century.

## 16. Parliament should define Law, not its Implementation

Of course, there is a great need for specifics in Law: a general directive is by definition vague and incomplete and the courts would be overrun without very detailed and specific rules to arbitrate between grey areas. Furthermore, one major danger of keeping the Law fresh as we have proposed above is that any one government is given far too much power to completely transform current Law – such power corrupts very easily into tyranny, so we need a large and powerful counterweight.

We propose a very simple solution for this: let those with sufficient skill qualifications in Law define the detailed and specific *implementation* of legal directives issued by Parliament via a collaborative website much like Wikipedia. In case you think this impossible, this process happens every day in open source software development where volunteer programmers will implement a specification handed down to them by others. There is absolutely no reason why Law cannot be developed and maintained just like open source

computer software – in fact, there is every reason that it *should* be operated in this way as it offers very significant economies of scale, allows any member of the public to participate, is a vastly improved way of implementing an upper house of Parliament (which can now be scrapped in lieu of this) and best of all, is completely open and transparent – something which most certainly cannot be said of the current process<sup>17</sup>. Because so many people are now familiar with Law and indeed bound into the actual process of its evolution and development, they offer a very powerful moderating influence on excessive government zeal.

People have the inalienable right to know and understand the rules by which they are governed. The current obese mess is so unknowable and arbitrary, even by its most expert practitioners, that it creates a Kafkaesque world where the innocent are guilty and the guilty are innocent. This serves no one's long term interests, and the whole legal system as it currently stands is grinding to a halt.

## 17. Regulate through Educate

We have alluded in our Education Proposals for skill based qualifications that something much bigger was coming as a replacement for legal regulation: we call it **freedom through qualification**. We make this 'Regulate Through Educate' proposal because we believe that every human being is borne into the chains of ignorance and incapability, and it is only through gaining experience, understanding and therefore wisdom can any person make a free choice.

For example, it is often said that a gun is a dangerous weapon – however, in truth it is only a *loaded* gun which is any more dangerous than a large rock. A person who does not know nor understand guns, most especially the difference in *potential consequences* of a gun, is robbed of their liberty by possessing a loaded gun because like a child, they are now constrained into using that loaded gun in order to discover its consequences. Many have observed that the citizens of Canada or Switzerland own more guns per person than the citizens of the United States, yet the rate of gun use against a human being in the US is dozens of times more prevalent. How can this difference be explained? We hold that most gun possessing citizens are wise enough to never use their weapons against another human being, however to possess a thing whose consequences are not understood invites experimentation for the exact same reasons as scientists conducting experiments. This need to understand has been severely repressed in the Western world – this is why most murders involving guns are

---

<sup>17</sup> Indeed the current practice of Law is so opaque that very few members of the public have easy access to a Law Library. The only country of which we are aware that has attempted to place most of its current Law online is Britain. It was precisely because of this easy accessibility that the *Freeing Growth* books examine British Law rather than anyone else's.

crimes of passion, usually by a man in a fit of rage. Not uncoincidentally, statistically men tend to experiment recklessly far more often than women.

We believe that freedom is extinguished by possessing access to something which one has neither earned nor deserves. One cannot possibly appreciate the gift bestowed upon life without earning one's living; much the same way we have squandered our material wealth on some of the most appalling trite. Most of us suffer severely from ingratitude under God's munificence – no wonder then that we live inside the Kingdom of God, but do not experience it.

We therefore propose that all activities which generate *potential* of negative consequences either to society or the individual which can be **easily** moderated shall be confined exclusively to those which possess the requisite skill qualifications.

How might this proposal be realised in practice? An awful lot of it is commonsense. For example, it is absolutely ludicrous that any adult can enter into a thirty-five year long mortgage contract involving hundreds of thousands of euro without an intimate understanding of compound interest. Because of how compounding works, a difference of one percent near the start of the contract can translate into tens of thousands of euro of extra cost (or indeed savings). If you would like to prevent a property bubble from ever happening again (much as caused the current credit crunch), a very good way is to require mortgage holders to possess a qualification in compound interest which must be renewed every five years. In particular, they should be adept at calculating net present value (NPV) under a series of scenarios such that they can optimise their repayment schedules according to changing market conditions – the banks of course will dislike this, however capital allocation efficiency would be greatly improved in an economy with consequent benefits for economic growth (far too much of potential consumer wealth is tied up in housing and in real estate in general – it should be out there growing the economy rather than as a method for the central bank to regulate disposable income. Remember, real estate wealth is effectively 'dead wealth' because it is tied up out of the economy – something the divorced money supply fixes). This particular form of Regulate through Educate is an example of 'negative liberty' whereby the system is structured to create freedom from oppression through ignorance by ensuring that only those who understand an economic contract may enter into it. It is equally an example of 'positive liberty' whereby the understanding instilled allows the consumer to take charge of their world, knowing that they know, and to fulfil their potential.

Another example of Regulate through Educate is that of unhealthy consumption e.g. psychoactive drugs (particularly alcohol which causes more harm than all the rest – including pharmaceuticals – combined), fatty and

unbalanced heavily processed foods, excessive or unwise use of labour saving tools (especially transport) and so on is not available to those not possessing the requisite skill qualifications. How can a person eat healthily if they have no understanding of what food is, how it is prepared nor what effects the consumption of different foods may have? Is it therefore not obvious why so many suffer from easily preventable diseases of malconsumption such as environmental diabetes, heart attacks and strokes? Imagine the effects upon economic growth if every person was as fit and healthy at the age of sixty as they were at the age of thirty?

Similarly, it is any wonder that there is drunken violence in almost every large town centre during the weekend, or that people continue to drink and drive? In fact most people with proper training can be quite safe drivers when moderately drunk, unfortunately a minority become so impaired even with small amounts of alcohol that they become such a liability that all drink driving has been banned for everyone. Yet because of the obvious holes in such logic – the fact that most people are perfectly capable of safe driving when drunk – drink driving continues even by those rendered incapacitated by it and who should never ever drive when drunk. Meanwhile, tens of thousands of lives continue to be snuffed out before their time with obvious consequences for economic growth.

Unlike some we most certainly do not advocate the absolute banning of any form of consumption at all: everyone should be free to do as they wish whether in public or in private. However, all consumption of anything must be done **responsibly** and with full understanding of the consequences of one's actions – otherwise one becomes imprisoned by unearned potential.

In the case of unhealthy consumption (for example hamburgers, psychoactive drugs etc), we propose that only those with the appropriate qualifications in nutrition for the hamburgers and in each psychoactive drug are permitted to purchase them. The purchaser may then give (but not sell, that requires an additional qualification as does manufacture) the proscribed item to others e.g. a qualified parent may buy a hamburger for their child, or a qualified friend may buy an Ecstasy tablet for another friend. For some foods/drugs where it is hard to immediately kill yourself it should be permitted to manufacture your own at home for personal consumption without qualification (e.g. hamburgers, naturally grown marijuana), whereas others with a mild chance of blowing oneself up may require qualifications in order to purchase the manufacturing equipment (e.g. alcohol distillation, artificially grown marijuana). We anticipate different levels of qualification for different concentrations of active agent, so alcohol at less than 1.5% would require no

qualification, below 10% level one, below 25% level two, below 40% level three, below 75% level four, below 100% level five and so on.

In the case of unhealthy behaviour (for example driving a car, riding a horse, unnecessary cosmetic surgery etc), we propose the institution of a system of automated restraint and regular checkups. For example, cars should simply not allow an unqualified driver to exceed the driving freedom permitted by their qualifications e.g. below 50kph level one, below 80kph level two, below 100kph level three, below 120kph level four, unlimited level five and so on. The car can know its driver through a fingerprint reader which turns on the ignition instead of a key – it then notifies the central content database which returns the driver's current qualifications and enables a randomised (and possibly compulsory – see next proposal) satellite tracking of the car during its journey to ensure that the car has not been tampered with. The car can also tell if a driver is impaired through drugs, alcohol or tiredness through analysis of driving pattern as compared to historical behaviour. This proposal may sound very 'Big Brother', however we do not anticipate a car whose functioning is arbitrarily imposed upon its drivers by others – in fact, we propose that the car's onboard computer system is open to third party modification such that any person can modify (most of) it as they see fit, thus choosing *how* their car regulates their driving but not *whether* it regulates their driving (this is quite possible given good computer software design). Traditionally this would open the temptation of spoofing the driver, however remember that we proposed properly implemented security protocols above which makes this possibility very difficult indeed unless you want to get caught (in other words, it is relatively easy for those who know how to spoof another driver, but the system will very rapidly identify your deception and ensure your capture and detainment). We also expect that it should be possible to obtain an 'elite' driving qualification which completely removes all driving restrictions, including behaviours which are currently illegal. Therefore, under our proposals, suitably qualified drivers would actually be more free on public roads than at any time since the early 20<sup>th</sup> century.

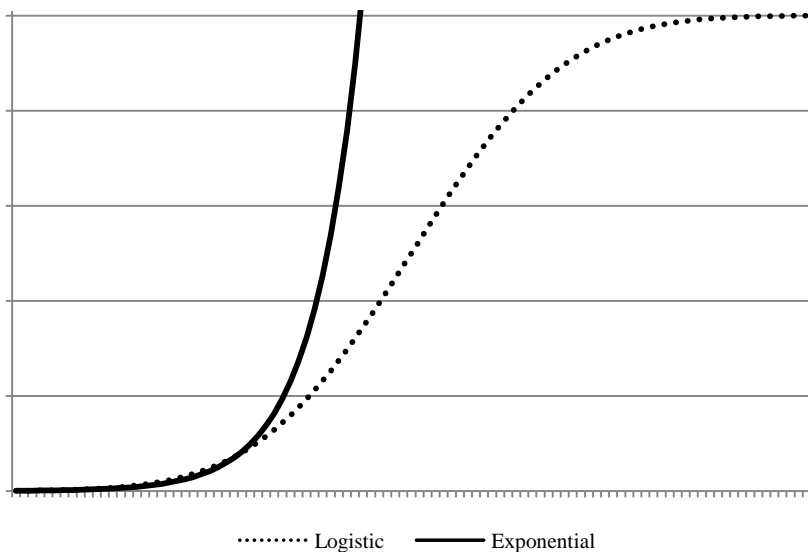
We believe that denial is one of the most important detractors from freedom that exists: most people would take preventative action to avoid heart disease, lung cancer or obesity if it hadn't just crept up upon them slowly. We therefore propose a system of regular checkups as part of gaining certain skill qualifications, so for example if one has the qualification for the consumption of tobacco then one should undergo a regular health check such that the smoker is in full awareness of the direct and specific consequences to their own health. The same goes for fatty foods as much as for crack cocaine – the difference only arises in the degree of effect upon health.

## The TBTI Proposal

### 18. Free the Information, Free the Growth!

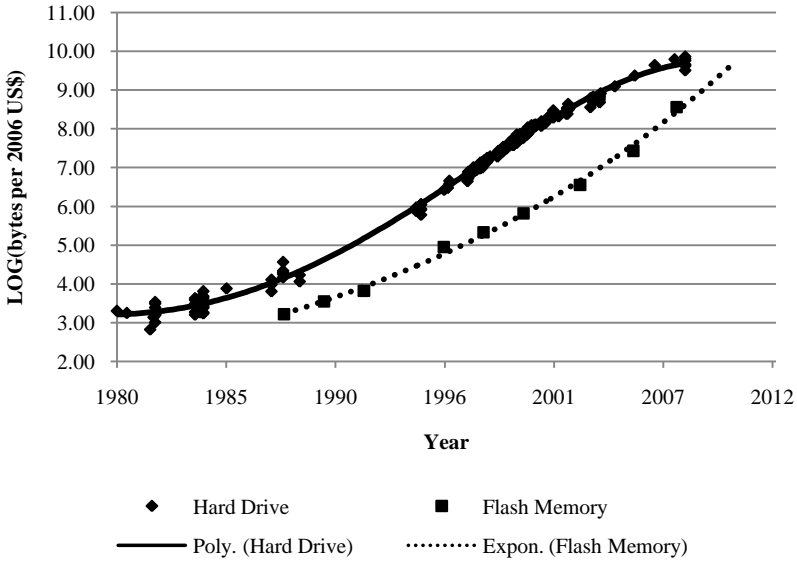
So far, all our proposals have been relatively small and contained – despite their apparent breadth of scope, they are nothing like as broad as this last and final proposal: the ‘Too Big To Imagine’ proposal for the ultimate increase in sustainable growth. We must state clearly for the record that we ourselves are uncomfortable with this proposal, we find its implications distasteful and to be honest, we find it hard to conceive of a world in which it were the case.

Nevertheless, we find our hand forced by a series of inevitabilities. All growth – whether technological, biological, whatever – invariably follows a thing called a *logistic curve* which looks like an elongated ‘S’:



In the early part of a logistic curve, growth appears exponential due to the compounding of the growth of earlier growth: just like our stock markets, GDP, semiconductor density (i.e. Moore’s Law) and so on. However, eventually hard (usually physical) constraints begin to take effect which reduces growth to linear, and eventually to exponential decline before growth stops dead. If you know and understand this logistic progression, one realises that nobody can predict when exponential growth turns linear (i.e. when exponential growth stops), but once it has turned linear you can most certainly predict to a

reasonable degree of accuracy when growth will stop by simply extrapolating the curve. For example, if we take computer storage technology<sup>18</sup>:



As is very obvious from this graph, computer hard drive technology has already begun its period of exponential decline. From extrapolating this graph, one can predict that flash memory storage will overtake as value leader around 2010, whereupon spinning magnetic computer storage will cease to be commonly used.

If you repeat this kind of analysis across human civilisation, one finds a most disturbing pattern:

1. The system knows your current geographical location to within a few metres thanks to the unique radio tag almost every single Western person carries with them (it is better known as the mobile phone)<sup>19</sup>.
2. The system knows your daily habits, patterns and movements. It knows what you like to buy through tracking your plastic and loyalty cards, it can track the licence plate of your car, it knows the balances of all your bank accounts through the centralised credit checking system<sup>20</sup>. Increasingly it even knows where you walk inside a shopping mall, how

<sup>18</sup> Sources: for hard drive data, see <http://www.littletechshoppe.com/ns1625/winchest.html>. For flash memory data, we composited figures for Intel’s flash memory technology website.

<sup>19</sup> Example: <http://www.followus.co.uk/>

<sup>20</sup> Example: <http://www.annualcreditreport.co.uk/>



long you stay at which shelf<sup>21</sup> and of course it knows who you regularly contact by phone or text message.

3. The system can accurately predict your voting intentions, the newspapers you read, your internal doubts, insecurities and biases, your hobbies and interests – the detail of the Experian marketing database<sup>22</sup> alone would shock many average people. Anyone can purchase access to these marketing databases for a modest fee.
4. The system knows and tracks everything you ever search for on the internet<sup>23</sup>, it knows which sites you visit, it knows which kind of pornography you may like, it knows the content of every email you have ever sent or received and moreover, it is legally required to keep at least a six month or longer history of all these. If you're a member of Facebook or Bebo, its knowledge of you is even more detailed, including detailed friendship relations and tracking of these over time through analysis of uploaded photographs and messaging.
5. Thanks to exponential improvements in real-time satellite tracking technology, very soon indeed we can track any arbitrary moving object wherever it goes in the world including when it is cloudy or at night. Currently there is an affordable processing power limit which keeps the maximum item count in the tens of thousands, however advances in stream processing technology<sup>24</sup> will affordably raise this to millions in the next two years. **By 2012 there is no reason why every Western citizen cannot be individually tracked in real-time.**

It is only a matter of time before these bits of real-time information are tied together such that mobile phone tracking can be combined with satellite tracking and CCTV footage tracking. Even if government does not invest in this combination, private industry most certainly will because it is very useful in helping them to sell you things that you don't need and given our current economic state, government will not stop them trying to stimulate demand in any way that they can.

The traditional response is to pass even more regulation to try and control this technological inevitability. Such regulation is useless because it is

---

<sup>21</sup> Example: <http://www.pathintelligence.com/>

<sup>22</sup> Example: <http://www.experian.co.uk/>

<sup>23</sup> Example: <http://www.google.com/trends/>

<sup>24</sup> This specifically refers to the Intel 'Larrabee' processor (and its descendants) which is due early 2010. It significantly steepens the exponential incline of improvement in computer processing power.

impossible to enforce in practice: even if you send inspectors around to physically check people, it is extremely easy to hide one's activities. Furthermore, there is an extremely easy way of circumventing such laws: simply outsource its processing into a less regulated country via a 'consultant' who handles the dirty deeds for you, and whom can be scapegoated should anyone get caught (an identical technique is used by the West to outsource torture).

We believe that all these attempts to control information are doomed to failure in the long run. We believe that giving one set of people privileged access to such personal information creates an unstoppable incentive for moral corruption and **will** lead to the downfall of society, because ultimately no one can sufficiently watch the watchers.

Furthermore, we proposed the educational, corporate, governmental and legal reforms which we have because our modelling shows that the rate of growth increases as we reduce the disparity of information asymmetries i.e. as we reduce the lag in the dissemination of understanding, the more rapidly that most groups of people come to an understanding of a new concept or idea, and therefore the more rapidly economic growth occurs. We selectively applied this piecemeal to certain industries or certain sectors, but in truth there is no good reason why what is good for the goose is also good for the gander, and therefore to take the theory to its logical conclusion by extending it to its maximum everywhere.

It is extremely hard to describe such a world. Everyone can watch everyone else at all times equally. Everyone can rummage around everyone else's email, bank accounts, past and present phone calls, watch them having sex in the privacy of their own houses, track their movements across the globe and of course inspect every detailed aspect of their lives both at work and at home. Because everyone also knows who is watching them, we think that out of courtesy privacy will remain intact for all but celebrities (but then celebrities already have a fairly identical problem today). Bosses can watch employees, employees can watch bosses, wives and husbands can watch one another, as can children and parents, as can courts and criminals ... as the list grows longer, the harder it becomes to imagine the likely effects on society, culture, the individual, rates of crime or the gap in wealth or indeed anything else. Nevertheless, the *Freeing Growth* books make as good an attempt as any, and **such a proposal effectively makes lying and blackmail completely obsolete for the first time in human history.**

We don't like this proposal: even though our models show not just exponential growth, but hyperbolic growth which is when the growth of growth is exponential – such rapid growth would tear apart a society and culture which

wasn't fully prepared for it. But we see it as the least worst choice given the alternatives of inevitably guaranteeing a tyranny as an elite few abuse their privileged information to exploit and bully the masses, or deliberately retrograding technological progress by simply destroying these advances outright. We also can see that a very great deal of good could come out of it: such a world is as close to the universal light (information) and truth of the Kingdom of God as described by His Prophets (any religion) as our minds can perceive, so hence this proposal appears to definitely be enacting the wisdom of the ancients.

What we are absolutely certain of is that present society is simply not ready for the widespread implementation of this proposal – it's too disruptive to traditional modes of Western human behaviour (which is primarily one of abusing all we behold while in a state of profound denial). The day it becomes imaginable to more than a few is the day it will become likely, and it could be implemented on an individual opt-out basis so long as the possibility for one person to impersonate another is permanently eliminated. We are absolutely, one hundred percent sure that this proposal is the inevitable destiny of human civilisation at some point because ALL trends in technological progress point in an identical direction. Put quite frankly, we think this inevitability is inescapable, and these proposals have been designed as the first stepping stone between now and then.

Sadly, we cannot see this 'Too Big To Imagine' proposal being even considered as viable until at least one tyranny, as we have predicted here, has demonstrated through horrific example why it is the only viable way forward. We too often assume that we are more civilised than our forefathers – in truth, we have only become much better at hiding the truth of our reality from ourselves. When push comes to shove, Western civilisation will redisplay the savagery and ruthlessness which propelled it to the top of the world. We only hope that once our predictions come true, we will be wise enough to forever remove the incentives towards moral corruption which asymmetries of power and information always provoke.



# Concluding Remarks

---

We believe that what we have proposed is not just one way of averting the imminent collapse of human civilisation, but will produce a world which is such an improvement upon what came before that we are actually proposing a quantum leap in the quality of life. We can do an awful lot more with less if we are smarter in how we do things.

Much of the detail of that quality and process has been left out of this Manifesto for reasons of space and the wish to not overwhelm the reader any more than necessary. What is not so obvious is how our proposals make these reforms *optional* in the sense that each country or region can enact them in whole or in part without disturbing trade and doing business in general. Unlike our predecessor *The Communist Manifesto*, we neither foresee nor wish for a violent revolution: violent revolutions are bad for everyone except arms manufacturers. We would much prefer a slow, steady evolution over time with ample time for reflection. After all, we may well have made a grave and catastrophic mistake (though we are quite sure that we have not!).

If you would like to know more, then choose your poison: this Manifesto has a Bibliography, the websites on the cover page have plenty of additional information, and of course we would strongly encourage you to invest in one or more of the *Freeing Growth* books (preferably via <http://www.freeinggrowth.org/buy/> as this donates the commission from Amazon to the Freeing Growth charity). This Manifesto, and indeed the Books, shall be kept maintained and up-to-date and therefore shall be periodically rereleased as (hopefully) improved editions over time.

Lastly, thank YOU for reading this Manifesto! We hope that you enjoyed it! If you liked it, feel free to pass on as many copies to others as you wish (you can download copies from <http://www.neocapitalism.org/> or purchase printed copies from the same).



# The Assumptions

---

In order to present the predictions and proposals of this Manifesto, a great many assumptions had to be taken as given. Some have accused us of a negative and impoverished view of what it is to be a human being, and many have felt that our predictions of the future are unnecessarily pessimistic.

Most of the more contentious assumptions are explained at length in the books – despite this, most contemporary people will still disagree anyway because ultimately they are articles of reasoned *faith* and therefore are not strictly empirically required. It is not the purpose of this document to debate the following assumptions, but we do list as many of them as we can for completeness.

## 1. There will be plenty of energy available to human civilisation in the near future

We have assumed that there will be no *absolute* energy shortage at any stage in the next century which is a big assumption to make, but we feel a reasonable one. The coming ‘energy crunch’ is not one of scarcity of energy, but rather one of scarcity of *transportable* energy. Fossil hydrocarbons, in the form which power our transport at normal atmospheric temperatures and pressures, yield around 45-55MJ/kg which is about as energetically dense a practical energy transport known to our science. Hydrogen fuel<sup>25</sup> can easily treble that energy density, but even at seven hundred times atmospheric pressure it still only

---

<sup>25</sup> We have strong reservations with the widespread use of hydrogen gas as fuel. Firstly, its generation is not as energy efficient as organic energy transports nor ever can be no matter what technological improvements we make, so it is simply a poor technical solution. Secondly, there will be leakage of hydrogen gas into the atmosphere whereupon, it being extremely light, it shall float off into space and therefore permanently deprive the biosphere of water while leaving an unnatural excess of highly toxic oxygen. Put simply, hydrogen fuel is neither long-term sustainable nor does it integrate easily into natural biosphere carbon-based energy cycles – we should be sensible and not lock ourselves into this technology.

transports one sixth of the energy for the same volume as gasoline. Our best available reasonably priced batteries currently carry one twentieth the energy density and at thirty times the volume. Even if both hydrogen and battery technologies see multiple doublings of improvement, it is not hard to imagine the profundity of the probable consequences when the cheap hydrocarbons run out. Transport technology will be slower, heavier and much more expensive.

We do not however believe that this means the end of the personal automobile, but we do believe that future personal transport will not travel very far nor fast – though still better than a horse. Air travel shall become exclusive to the very wealthy and almost all heavy goods (e.g. food) shall become transported by sea and canal which significantly lengthens transport time and means that unseasonal foods shall become the privilege of the wealthy. Road haulage as we have known it shall simply vanish except where canals cannot be built.

Unless there is a very radical and unexpected technological improvement, these changes cannot be avoided nor changed – they are as inevitable as the sun rising each morning. However, we have assumed that electrical energy shall remain plentiful on the basis that if so incentivised, a great deal of non-fossil electricity generation capacity could be constructed relatively quickly. We would **strongly** point out that direct current (DC) transfers are far more efficient and useful than alternating current (AC) now that we have the transistor switching technology which the pioneers of electricity did not – switching to DC could **halve** the number of nuclear power stations we shall have to build which therefore halves the amount of nuclear waste produced. We also recognise that there are improved nuclear fission designs which can produce a fifth of the nuclear waste or better (though with a much increased radioactivity and toxicity), and furthermore that some new nuclear power stations will be needed for the times when Nature is not blowing much wind around.

We also very strongly advocate the holistic locating of sun-collecting steam turbine power stations in the south of the EU and US which pump power via high-tension DC electrical cables to the more overcast north where tidal and wave power is not practical or available. Unlike some, we view geothermal as a *store* of energy rather than a source: heavily tapping geothermal will produce devastating earthquakes in some parts of the world and may destabilise the Earth's protective magnetic shield, whereas pumping energy in during the summer and out during the winter is a far safer and more sustainable approach in the long-term. We need to accept that the 'free' energy lunch we have gorged ourselves upon is unhealthy, and that simply substituting 'free' geothermal for



hydrocarbons will not help us – the only truly long-term sustainable energy source is the Sun. Geothermal can act as a battery, but it is not inexhaustible.

To conclude, we do not anticipate an energy shortage – we have more than plenty of affordable options. We do however predict a severe hydrocarbon crunch which means the end of cheap transport and cheap artificial nitrogen fixation (which relies heavily on natural gas) with the concomitant severe effects upon food availability and speed of transport. In particular, we foresee as a result an *increase* in the use of the internet and computer information technologies in order to ‘virtually travel’ where one physically no longer can. This is because most of the energy inputs into operating computer technology can be successfully moved from fossil to electrical, and besides computer technology has been the main driver of economic growth in the West from the 1970s onwards. The manufacture of computer technology is currently extremely oil dependent, but it is feasible for carbon-based semiconductor technology to be mostly electrically manufactured.

## 2. World War III will not break out

Had the hydrocarbon crunch occurred while Communism was still viable, we would have invested our efforts into nuclear fallout shelters and forgone the generation of this document on the assumption that the likely future was obvious. Most fortuitously for human civilisation, today everyone is more or less agreed on some form of Western-style participatory (even if not quite democratic) free market capitalism as the correct economic solution. Much hot air is expended on clashes of civilisations and imminent threats from China/Islam/whatever, and we certainly expect some strategic positioning in the run-up to the hydrocarbon crunch (after all, what do you think the USA in Iraq was all about? Or Russia in Chechnya or Georgia? Or China in Tibet or Africa?). However, today is one of those very few times in human history where everyone is more or less on the same page and moreover, it is extremely, even starkly obvious given the recent economic slide that everyone’s fortunes hang upon everyone else’s. No one is under any illusions whatsoever that a military grab for resources would do much beyond forestall, and most likely advance, the inevitable.

Much as the powers-that-be might dislike it, we’re going to sink or swim together and that creates a wealth of opportunities. In other words, unless a nuclear bomb goes off by accident at a really bad moment (which is quite possible given the age of their control systems), we think that the crunch will be met with military skirmishes around key strategic resource bottlenecks but not full-out war. We expect propaganda from all sides to increase but we anticipate that this will simply drive more people to discover their own truth through the

internet – which by the way is extremely hard to comprehensively filter due to its enormous size and diversity. In finding their own truth they shall discover Manifestos for Change of which this, the Neo-Capitalist Manifesto, is to our knowledge the first of the 21<sup>st</sup> century.

While we would rather prefer that every single proposal in here is enacted exclusive of all others, we know that our proposals will be fused with others and something unexpected to any of us will emerge. It is for this reason that we have attempted to keep the proposals as separate and standalone as we could in the hope that as many of them will be implemented piecemeal as possible.

Nevertheless, it is still possible that Nationalistic fervour may break out in one of the major powers, leading to a belief that the only viable solution is growth through expansion and therefore leading to World War III. We sincerely hope that it does not.

### 3. There will be a cultural shift towards ‘smaller is better’

Most of the proposals made by this Manifesto are plainly infeasible in the current prevailing culture. For example, international and internal treaties technically prohibit much of what we propose – especially within the EU and USA – and no one realistically expects the legal profession to enthusiastically embrace the opening up of Law so that anyone can grasp the general gist from the Parliamentary directives, or the teaching profession the elimination of most of their numbers, or indeed governments themselves who would be relegated to mostly a supervisory role. We recognise that this one argument is the single biggest flaw in our proposals – they may well produce a high growth near-utopia which transcends any civilisation ever witnessed by man, but in the end: *does it matter if it isn't possible?*

We have observed that around the last time oil prices rose substantially in the 1970s there became a most interesting phenomenon: smaller & simpler suddenly became fashionable. This was odd, even at that time, because the average general trend is towards bigger, heavier and more powerful: so for example, after decades of bigger & heavier cars, American consumers suddenly switched their preference towards small Japanese cars much to the then detriment of the Detroit automobile cartel. One might say ‘oh that’s just because of the rise in petrol prices’, but these things become self-reinforcing: smaller stayed better long after the oil price had returned to reasonable levels.

We have noted the recent sudden switch of preference towards smaller, simpler computers: the 10” and 9” laptops and tiny desktop computers of 2008/2009 have been vastly more popular than anyone in the computer industry predicted – even Intel who manufactures the Atom processor which powers

most of these ‘light’ computers was surprised by the massive shift in demand<sup>26</sup>. Last year in Ireland €20k engagement rings were the average, this year any ring over €5k receives a disapproving look and much nastiness in the grapevine gossip. Such is the nature of energy driven recessions – they are one of the few events which have a predictable effect on women’s hemlines.

Considering the upcoming hydrocarbon crunch, we believe that this trend towards ‘smaller is better’ shall go far further this time than at any time in preceding history. Firstly the banks are going to be given a hefty haircut – they were foolish enough to award themselves bonuses out of taxpayers’ emergency capital, and they will slowly be savaged for such monumental insensitivity with a thousand cuts. We predict that this will be the first of many ‘downsizings’ of many of society’s big institutions, and much as Thatcher and Reagan were elected in the late 1970s out of society’s annoyance with big and incompetent government, we believe that society too will reach the right state of mind to make these proposals viable sooner rather than later. We believe in particular that the time is ripe for massive reform of Education where the death bells for the current system of institutionalised child abuse have been chiming ever louder for decades now – it just needs one large enough crack to let the light shine through, and the entire edifice will collapse.

#### 4. Human Beings will not suddenly start behaving better

Most, if not nearly all, of the existing literature on the topic of mitigating the effects of climate change and/or hydrocarbon scarcity comes from the left wing of politics for the simple reason that it was the left who began the process of telling the world about these upcoming problems (e.g. *Limits to Growth*), and hence it is the left who have done most of the work in thinking of the likely scenarios and solutions. One of the very best series of books in detailing what needs to be done is Lester Brown’s excellent *Plan B* books and we strongly encourage anyone interested in this topic to consult them.

However, as so often happens, left wing politics got mixed up into the plan for what needs to be done. The left is quite correct that most of our global social and environmental problems stem from two main factors: (i) there are too many people in the world and (ii) too many of those people are extremely poor (i.e. there is a massive and growing wealth gap between the richest and poorest). Having so many extremely poor people is very destructive for the global environment because they are willing to do anything to eke out an existence,

---

<sup>26</sup> Intel, being the Intel monopoly, have deliberately gone out of their way to pace this market transition by erecting roadblocks to slow and smooth the adoption of the Atom processor. This is to give the market time to adapt and is probably a wise move despite the consternation of computer enthusiasts who really hate it when a company deliberately denies them new technology.

and by having so many living on the threshold of subsistence they tend wreck their local ecosystems through digging for valuable ores, overfishing, felling trees etc. in the standard Malthusian fashion. The left holds that the only solution is to narrow the wealth gap by reallocating wealth away from the very rich Westerners to the poorest of the world such that all these poor people no longer have to eke out an existence, whereupon the environmental destruction is no longer necessary and the birth rate will normalise. They estimate that the world population could be stabilised via their plan at around nine billion people.

It sounds wonderful doesn't it? The world's peoples coming together to work together as one, the rich giving to the poor and everyone comes out okay. Our problem is that we feel this scenario highly unrealistic because it assumes that *imposing better behaviour makes better people*. The cold, hard truth of our current problem is that most of the world's poorest people exist because their parents had more children than they could provide for – eminently sensible given their experience of the world at that time when most of their children would not reach adulthood. Is it being seriously suggested that if we should transfer wealth from rich Westerners to these poorest of the poor that they will suddenly curtail their birth rate to two children per couple thanks to this global spirit of cooperation in order to mitigate climate change and hydrocarbon crunches?

We think that extremely unlikely. It has been proposed that education programmes accompany the transfer of wealth, but we don't think that most of the poorest people will listen – they will happily take the wealth, but much like first generation immigrants into the West they will for that first generation act as if they were still much poorer i.e. there is a significant lag between changes in wealth and birth rate. This means that if we transfer that wealth, we must expect a ballooning of population. Of course, the left know this and have tried to account for it using some very optimistic projections. We think these projections are far too optimistic to be realistic, and we worry that should people not follow the optimistic reproduction model, there may become a temptation to introduce a 'food for sterilisation' programme to ensure that people comply. This deeply worries us, because now one set of people are deciding the fate of another set of people without their permission which is the perfect recipe for moral corruption.

Beyond these more fundamental matters, there are also the issues of differences in culture and politics. We would absolutely love if people could put aside their differences and cooperate to solve the world's problems. However, life isn't like that: people compete, and the West above all is very competitive. The average Western consumer is more than happy to see fifteen million people die annually in the third world just because they can't be

bothered to spare a dollar each a day – they like their food, electronics and luxuries made cheaper by third world labour eking out a living for pennies. Equally, we are not more generous because we know that for every poor person we save from starvation, currently around four new mouths to feed appear within ten years – the consequence of which is tearing apart Africa and will shortly tear apart India and China. We don't think that the average poor person is going to give a damn about climate change or anything that worries the West because it simply isn't on a person's radar when they regularly fear starvation – though they will get 'worried' if the West pays them to do so, but then that isn't genuine agreement with Western concerns.

Many have said that this is a highly impoverished view of human beings and that we would far prefer to do nothing and let two billion people die a horrific death rather than trying to save them. They therefore say that we are being selfish and that we are abrogating our duty to help our fellow man.

We however believe that we have a wider view. We would point out that we got ourselves into the present position by having dug ourselves into the hole of overpopulation through simultaneously being too miserly to give enough to let the birth rate naturally drop after one generation, and being too charitable to let the starving die thus saving many more deaths later on. In other words, we got to this place through dithering and insecurity: we **must** choose either one way fully or the other way fully. We don't think that anyone on the left or right would disagree with this statement, so now it comes down to which choice will make a better world: save two billion or sacrifice two billion?

We think that nine billion people are far less sustainable than four billion people. They are more unwieldy, harder to control and far more likely to destabilise. They also *de facto* require twice the resources on an ongoing basis. We have also been in this position before: the Scottish Highland Clearances were performed by accountants on the basis that sheep were more profitable than people who couldn't look after themselves and regulate their own birth rate – a similar situation arose in the Irish potato famine. The choices made then by the rich and powerful in the early to mid-19<sup>th</sup> century transformed the world and contributed very significantly to the rise of the United States of America as the world superpower.

Without doubt, this choice between saving or sacrificing two to three billion people will have just as profound effects in the next two centuries. Which option is more likely to succeed, have more beneficial effects according to the historical record and be long-term sustainable? Choose your poison: we have.



# Bibliography

---

- Arrow, K. (1951). Social Choice and Individual Values. *Cowles Commission for Research in Economics Monographs Series no. 12* .
- Arrow, K. (1962). 'The economic implications of Learning by Doing'. *Review of Economic Studies* , vo. 29, pp. 155-173.
- Atkinson, Q. D., Meade, A., Venditti, C., Greenhill, S. J., & Pagel, M. (2008, February). 'Languages Evolve in Punctuational Bursts'. *Science* , vol. 319 (no. 5863), p. p. 588.
- Auffhammer, M., Ramanathan, V., & Vincent, J. R. (2006). 'Integrated model shows that atmospheric brown clouds and greenhouse gases have reduced rice harvests in India'. *Proceedings of the National Academy of Sciences* .
- Bakan, J. (2004). *The Corporation: The Pathological Pursuit of Power*. London: Constable & Robinson Ltd.
- Bateson, G. (1979). *Mind And Nature - A Necessary Unity*. New York: Dutton.
- Berlin, I. (1979). *Four Essays on Liberty*. Oxford University Press.
- Bourdieu, P. (1977). *Outline of a Theory of Practice*. Cambridge University Press.
- Bourdieu, P. (1993). *The Field of Cultural Production*. Polity Press.
- Brooks, F. P. (1975). *The Mythical Man-Month: Essays on Software Engineering*. Addison-Wesley.
- Brown, L. (2008). *Plan B 3.0: Mobilizing to Save Civilization*. London: W. W. Norton & Co.
- Brutsaert, W., & Parlange, M. B. (1998). 'Hydrologic cycle explains the evaporation paradox'. *Nature* , vol. 396 (no. 30).
- Capra, F. (1976). *The Tao of Physics*. London: Flamingo.
- Capra, F. (1997). *The Web Of Life*. London: Flamingo Books.
- Carr, E. H. (1967). *What is History?* London: Penguin Books.

- Caves, R. E. (2000). *Creative Industries: Contracts between Art and Commerce*. Harvard University Press.
- Chaitin, G. J. (1990). 'Information, Randomness and Incompleteness'. *World Scientific* .
- Cole, H. S., & Pavitt, K. L. (1973). *Models of Doom: A Critique of the Limits to Growth*. Universe Pub.
- Costanza, R., d'Arge, R., Groot, R. d., Farber, S., Grasso, M., Hannon, B., et al. (1997). 'The Value of the World's Ecosystem Services and Natural Capital'. *Nature* , vol. 387, pp. 253-260.
- Dasgupta, P. (2007). 'Comments on the Stern Review's Economics of Climate Change'. *National Institute Economic Review* , no. 199.
- Dasgupta, P. (upcoming). 'Discounting Climate Change'. *Review of Environmental Economics and Policy* .
- Datta, S. K., Tauro, A. C., & Balaoing, S. N. (1968). 'Effect of Plant Type and Nitrogen Level on the Growth Characteristics and Grain Yield of Indica Rice in the Tropics'. *Agronomy Journal* .
- David, P. A., Waterman, A., & Arora, S. (2003). *The Free/Libre/Open Source Software Survey for 2003*'. Retrieved from <http://www.stanford.edu/group/floss-us/>
- Debreu, G. (1959). *Theory of Value: An Axiomatic Analysis of Economic Equilibrium*. New Haven: Yale University Press.
- Ehrlich, P. R. (1968). *The Population Bomb*. Ballentine Books.
- Epple, K., & Schaefer, R. (1996). The transition from monopoly to competition: The case of housing insurance in Baden-Württemberg. *European Economic Review* , vol. 40, pp. 1123-1131.
- Food and Agriculture Organization. (2003). *World agriculture towards 2015/2030: an FAO perspective*. Rome, Italy.
- Fountaine, T. M., Benton, M. J., Dyke, G. J., & Nudds, R. L. (2005). 'The quality of the fossil record of Mesozoic birds'. *Proceedings of the Royal Society in Biological Sciences* , vol. 272 (no. 1560), pp. 289-294.
- Friedman, M., & Friedman, R. (1980). *Free to Choose: A Personal Statement*. New York: Harcourt.
- Galbraith, J. K. (1968). *The New Industrial State*. Penguin Books.



- Gibbon, E. (1898). *The History of the Decline and Fall of the Roman Empire*. London: Methen & Co.
- Gödel, K. (1931). 'On Formally Undecidable Propositions in Principia Mathematica and Related Systems'.
- Graff, D. A., & Higham, R. (2002). *A Military History of China*. Westview Press.
- Gramsci, A. (1929-1935). *Prison Notebooks*.
- Groningen Growth and Development Centre. (n.d.). *The World Economy: Historical Statistics*. Retrieved from <http://www.ggdc.net/>
- Gruber, N., & Galloway, J. N. (2008). 'An Earth-system perspective of the global nitrogen cycle'. *Nature*, vol. 451, pp. 293-296.
- Handy, C. B. (1976). *Understanding Organizations*. London: Penguin Books.
- Hatch, M. (2002). 'C4 photosynthesis: discovery and resolution'. *Photosynthesis Research*, vol. 73, pp. 251-256.
- Hawkin, P., Lovins, A. B., & Lovins, L. H. (1999). *Natural Capitalism - The Next Industrial Revolution*. London: Earthscan Publications.
- Heisenburg, W. (1971). *Der Teil Und Das Ganze (Physics and Beyond)*. New York: Harper & Row.
- Hesmondhalgh, D. (2006). 'Bourdieu, the media and cultural production'. *Media, Culture and Society*, vol. 28, pp. 211-231.
- Hofstadter, D. R. (1979). *Gödel Escher Bach – An Eternal Golden Braid*. London: Harvester Press.
- Homer-Dixon, T. (2007). *The Upside of Down*. London: Souvenir Press.
- Hotelling, H. (1929). 'Stability in Competition'. *The Economic Journal*, vol. 39, pp. 41-57.
- Hubbert, M. K. (1956). 'Nuclear Energy and the Fossil Fuels'. *American Petroleum Institute*.
- International Cooperative Alliance . (2007). *Annual Report*.
- International Monetary Fund. (2008). *World Economic Outlook Database*.
- International Rice Research Institute. (2008). *The Decline of IR8*. Retrieved from <http://www.irri.org/publications/annual/pdfs/ar2000/IR8.pdf>
- IPCC. (2007). *The Fourth Assessment Report*. United Nations.

- Jackson, N., & Carter, P. (2006). *Rethinking Organisational Behaviour: A Poststructuralist Framework*. London: Prentice Hall.
- Jantsch, E. (1980). *The Self-Organizing Universe*. New York: Pergamon.
- Jevons, W. S. (1865). *The Coal Question; an inquiry concerning the progress of the nation, and the probable exhaustion of our Coal-Mines*. London: Macmillan.
- Johansson, C., Norman, M., & Gidhagen, L. (2007). 'Spatial & temporal variations of PM10 and particle number concentrations in urban air'. *Environmental Monitoring and Assessment*, vol. 127 (no. 1-3), pp. 477-487.
- Jorgenson, D. W., & Vu, K. (2005). 'Information Technology and the World Economy'. *Scandinavian Journal of Economics*, vol. 107 (no. 4), pp. 631-650.
- Jung, C. G. (1964). *Man and his Symbols*. New York: Anchor Books, Doubleday.
- Kaye, P., Laflamme, R., & Mosca, M. (2006). *Introduction to Quantum Computing*. London: Oxford University Press.
- Kittel, C., & Kroemer, H. (1980). *Thermal Physics*. W.H. Freeman & Co Ltd.
- Kuhn, T. S. (1962). *The Structure of Scientific Revolutions*. University of Chicago Press.
- Layard, R. (2006). *Happiness: Lessons from a New Science*. Penguin Books.
- Liepert, B. G. (2002). 'Observed Reductions in Surface Solar Radiation in the United States and Worldwide from 1961 to 1990'. *Geophysical Research Letters*, vol. 29 (no. 12), pp. 1421.
- Lovelock, J. (2007). *The Revenge of Gaia: Why the Earth Is Fighting Back - and How We Can Still Save Humanity*. Penguin Books Ltd.
- Mallory, W. H. (1926). *China: Land of Famine*. American Geographical Society.
- Malthus, T. (1798). *An Essay on the Principle of Population*.
- Mas-Colell, A., Whinston, M., & Green, J. R. (1995). *Microeconomic Theory*. New York: Oxford University Press.
- Maturana, H., & Varela, F. (1987). *The Tree of Knowledge - Knowing That We Know*. Boston: Shambhala.

- Meadows, D., Randers, J., & Meadows, D. (2004). *Limits to Growth: The 30-Year Update*. Chelsea Green.
- Mikkonen, T., Vadén, T., & Vainio, N. (2007). 'The Protestant ethic strikes back: Open source developers and the ethic of Capitalism'. Retrieved from [http://www.firstmonday.org/issues/issue12\\_2/mikkonen/index.html](http://www.firstmonday.org/issues/issue12_2/mikkonen/index.html)
- Miller, G. (1971). *Energetics, Kinetics and Life*. Wadsworth.
- Newbury, D., & Stiglitz, J. (1982). The Choice of Techniques and the Optimality of Market Equilibrium with Rational Expectations. *Journal of Political Economy* , vol. 90 (no. 2), pp. 223-246.
- Nordhaus, W. D. (2007). 'A Review of the Stern Review on the Economics of Climate Change'. *Journal of Economic Literature* , vol. 45 (3), pp. 686-702.
- O' Brien, P., & Clesse, A. (2002). *Two Hegemonies: Britain 1846-1914 and the United States 1941-2001*. Ashgate.
- Ormerod, P. (1998). *Butterfly Economics*. London: Faber and Faber Ltd.
- Ormerod, P. (2005). *Why Most Things Fail – Evolution, Extinction & Economics*. London: Faber and Faber Ltd.
- Osbourne, C. P., & Beerling, D. J. (2006). 'Nature's green revolution: the remarkable evolutionary rise of C4 plants'. *Philosophical Transactions of the Royal Society* , vol. 361, pp. 173-194.
- OTA, K.-i. (2006). *Towards a Hydrogen Economy*. Retrieved from OECD Global Science Forum: <http://www.oecd.org/dataoecd/12/53/36746578.pdf>
- Pagel, M., Venditti, C., & Meade, A. (2006, October). 'Large Punctuational Contribution of Speciation to Evolutionary Divergence at the Molecular Level'. *Science* , vol. 314 (no. 5796), pp. pp. 119 - 121.
- Penrose, R. (2004). *The Road to Reality*. Great Britain: Random House.
- Petit, J. R., Jouzel, J., Raynaud, D., Barkov, N. I., Barnola, J.-M., Basile, I., et al. (1999). 'Climate and atmospheric history of the past 420,000 years from the Vostok ice core, Antarctica'. *Nature* , vol. 399, pp. 429-436.
- Pidwirny, M. (2006). *Fundamentals of Physical Geography, 2nd Edition*. Retrieved from "The Hydrologic Cycle": <http://www.physicalgeography.net/fundamentals/8b.html>

- Porter, M. E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: The Free Press.
- Portmann, F., Siebert, S., & Döll, P. (2006). Global dataset of monthly crop-specific irrigated areas around the year 2000. *Conference on International Agricultural Research for Development*. Bonn.
- Priest, G. (1979). 'The logic of paradox'. *Journal of Philosophical Logic*, vol. 8, pp. 219-41.
- Ramanathan, V., & Carmichael, G. (2008). 'Global and regional climate changes due to black carbon'. *Nature Geoscience*, vol. 1, pp. 221-227.
- Redefining Progress. (2008). *Genuine Progress Indicator*. Retrieved from [http://www.rprogress.org/sustainability\\_indicators/genuine\\_progress\\_indicator.htm](http://www.rprogress.org/sustainability_indicators/genuine_progress_indicator.htm)
- Rockström, J. (2003). 'Water for Food and Nature in Drought-Prone Tropics: Vapour Shift in Rain-Fed Agriculture'. *Philosophical Transactions: Biological Sciences*, vol. 358 (no. 1440), pp. 1997-2009.
- Rosegrant, M., Cai, X., & Cline, S. (2002). *World water and food to 2025: dealing with scarcity*. Washington D.C.: International Food Policy Research Institute.
- Runge, C. F., & Senauer, B. (2007). 'How Biofuels Could Starve the Poor'. Retrieved from Foreign Affairs: <http://www.foreignaffairs.org/20070501faessay86305/c-ford-runge-benjamin-senauer/how-biofuels-could-starve-the-poor.html?mode=print>
- Russell, B. (1946). *A History of Western Philosophy*. London: George Allen & Unwin Ltd.
- Ryle, G. J., Powell, C. E., & Gordon, A. J. (1979). 'The Respiratory Costs of Nitrogen Fixation in Soyabean, Cowpea, and White Clover'. *Journal of Experimental Botany*, vol. 30 (no. 1), pp. 145-153.
- Sayyid Qutb, س. ق. (1964). (*Milestones Along the Way*) □□ □□□ □□  
□□ □□ □□
- Shady, R., Haas, J., & Creamer, W. (2001). Dating Caral, a Preceramic Site in the Supe Valley on the Central Coast of Peru. *Science*, vo. 292, pp. pp. 723-726.

- Shapiro, C., & Varian, H. R. (1998). *Information Rules: A Strategic Guide to the Network Economy*. Harvard Business School Press.
- Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *Journal of Finance* , vol. 19 (no. 3), pp. 425-442.
- Simon, J. L. (1994). 'More People, Greater Wealth, More Resources, Healthier Environment'. *Journal of Economic Affairs* .
- Simon, J. L. (1981). *The Ultimate Resource*. Princeton University Press.
- Smil, V. (2001). *Enriching the Earth: Fritz Haber, Carl Bosch and the Transformation of World Food Production*. Cambridge, MA: MIT Press.
- Stern, N. (2007). *The Economics of Climate Change: The Stern Review*. Cambridge University Press.
- Stewart, I. (1997). *Does God Play Dice? - The New Mathematics of Chaos*. Penguin Books.
- Taiz, L., & Zeiger, E. (2006). *Plant Physiology 4th ed*. Sinauer Associates, Inc.
- The Cooperative Group. (2006). *Annual General Report*. Manchester: The Cooperative Group.
- The International Co-operative Alliance. (2006). *Annual Report 2006*. Geneva: International Co-operative Alliance.
- The World Bank. (2006). *Water, Electricity, and the Poor*.
- Tol, R. (2006). 'The Stern Review of the economics of climate change: a comment'. *Energy & Environment* , vol. 17 (no. 6), pp. 977-981.
- U.S. Department of Agriculture and Agricultural Research Service. (2006). *History of the Green Revolution*. Retrieved from <http://www.ars.usda.gov/is/timeline/green.htm>
- U.S. Department of Agriculture and Agricultural Research Service. (2006). *'Improving Corn'*. Retrieved from <http://www.ars.usda.gov/is/timeline/corn.htm>
- US Census Bureau. (2008). Retrieved from <http://www.census.gov/ipc/www/idb/worldpopinfo.html>

- Verhulst, P. F. (1838). 'Notice sur la loi que la population poursuit dans son accroissement'. *Correspondance mathématique et physique*, vol. 10, pp. 113-121.
- Walsch, N. D. (1997). *Conversations with God: An Uncommon Dialogue: Book 1*. G. P. Putnam & Sons.
- Watson, A. M. (1974). 'The Arab Agricultural Revolution and Its Diffusion, 700-1100'. *The Journal of Economic History*, vol. 34 (no. 1), pp. 8-35.
- Whitehead, A. N., & Russell, B. (1911-1913). *Principia Mathematica (3 vols)*. Cambridge University Press.
- Wild, M., Gilgen, H., Roesch, A., Ohmura, A., Long, C. N., Dutton, E. G., et al. (2005). 'From Dimming to Brightening: Decadal Changes in Solar Radiation at Earth's Surface'. *Science*, vol. 308 (no. 5723), pp. 847-850.
- Wilkinson, W. (2007). 'In Pursuit of Happiness Research: Is It Reliable? What Does It Imply for Policy?'. *Policy Analysis* (no. 590).
- World Health Organisation. (2002). *World Health Report*.
- World Resources Institute. (2007). 'Agricultural Production Indices: Food Production per Capita Index'. Retrieved from EarthTrends: <http://earthtrends.wri.org/>
- Zeitlyn, D. (2003). 'Gift economies in the development of open source software: anthropological reflections'. *Research Policy*, vol. 32 (no. 7), pp. 1287-1291.