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Some Problems of Individual Emergence

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Abstract: Some examples of individual emergence that it might behove us to examine as case studies are first listed. Examples include the emergence of personal greatness and the emergence of life on the one hand and what might be termed "the death virus" on the other. It is then argued that some of the occurrences that seem to us so inexplicable in individual emergence arise from the absence of conceptual frameworks which would enable us to see what is going on in the background. However, it is then suggested that the failure to develop such frameworks is only one of a cluster of positive, emergent, developments that are heading our species – and probably all life itself – toward extinction. These developments include monocultures of society, of mind, and of animals and plants. If we wish to understand the emergence of this destructive process we need to study the socio-cybernetic feedback loops that are driving it. In short, we need to understand and describe an emergent *system*. Such an emergent system is every bit as real – every bit as "hard" – as an emergent organism. Finding ways of intervening in this socio-cybernetic system is crucial to halting our plunge toward self-annihilation.

Overview

In this paper I will first comment on two general problems that seem to me to lie behind some of the specific problems of individual emergence that have been discussed at this conference. Thereafter, I will explore the emergence of a specific problem – the emergence, via *homo sapiens,* of the cancer which, unless we urgently initiate appropriate collective action, is going to destroy life in the universe – or, at least, all life that we know about.

Let me start by listing some of the varieties of individual emergence that we might have chosen to talk about here. They include:

- The emergence of "great" individuals who seem to accomplish more than whole civilisations or their armies were able to achieve. Examples might include Cortez's seemingly single-handed[1] destruction of the Aztec civilisation, the conquests of Alexander, and Rhodes' transformation of Africa.
- The emergence of epidemics of individual behaviours which seem to be incompatible with – and are certainly not condoned by – the societies in which they emerge. An example would be the exponential growth of murder in the US – there being now more murderers in prison than there are law enforcement officers.
- The emergence of what is perhaps the most striking example of the individuation of a part which has properties not possessed by the whole out of which it emerged – namely the emergence of Gaia, the living planet, out of a lifeless universe.
- The progressive emergence of "life" itself – a unique and complex process that is seemingly incompatible with the laws of physics that are said to control the operation of the context from which it emerged.
- The emergence of unique species, and perhaps especially *homo sapiens,* each at first sight having properties not possessed by others.
- The progressive concentration of the ownership of wealth: 23 single individuals (not corporations) now own 41% of the world's capital. If the process continues some one individual is going to own more that everyone else put together.
- The emergence of individualised institutions – perhaps even of a single institution – of centralised economic and social control: I have in mind the emergence of the nested set of institutions comprising, first, the (privately owned) Federal Reserve Bank which then spawned the World Bank and then the International Monetary Fund (IMF) with its draconian powers to control individual economies (including the conditionalities for entry to the European Monitory Union [EMU]), followed by the General Agreement on Trade and Tariffs (GATT), the Multinational Agreement on Investments (MAI), the General Agreement on Trade and Services (GATS), and the World Trade Organisation (WTO) with their unbelievable powers to eliminate all evidence-based criticism of the destructive effects of the Trans-National Corporations (TNCs) and the financial system itself.
- The progressive emergence of a worldwide monoculture of the mind aided and abetted by, on the one hand, huge multi-billion dollar worldwide "educational development" programmes designed to eliminate any recognition of the diversity

of human talent from schools and, on the other, the destruction of the universities.

- The cancerous creation of useless work – work of the kind that our saying that "The Devil finds work for idle hands" might have led us to expect him to create to occupy hands made idle through the substitution of energy from fossil fuels for human labour: work creating endless varieties of shampoo, producing and marketing junk foods, junk toys, junk education, junk services, and junk research; the cancerous individuation of "services" the need for which has mostly been created by perverse human legislation. For example, probation officers supervising "criminals" whose only offence has been to smoke cannabis in a manner contrary to legislation which was introduced to create and protect a market for synthetic fibres whose production and use is, in reality, very much more destructive than any possible disbenefits of cannabis smoking[2]. Or counsellors for those suffering from mandated isolation, de-humanisation, and stress, advisors, social workers, and medical auxiliaries who cater for people who would much prefer a decent income, to be able to lead their lives as they choose, to be embedded in their communities, and to be allowed to die with dignity[3]. Most of this useless work demeans and dehumanises its recipients but nevertheless, on the one hand, through the salaries and consumption of those who perform it, contributes immensely to "GNP" and, on the other, results in the destruction of vast physical, biological, and human resources.
- The emergence of mountains of individual publications presented as an "information explosion" but which actually contain little or no new information. For example, out of every 1,000 articles in American Educational Research Association journals, only 20 contain new data and in only 5 is that data substantial.
- The emergence of an individual nation, lauded as the most efficient the world has ever known, but which actually consumes untold amounts of energy, inflicts enormous damage on the soils, the seas and the atmosphere (not to mention its own people), exploits, degrades, and dehumanises the members of most other nations, and has an ecological footprint larger than Russia, China, and India combined.
- The emergence by the million of individual chemical compounds and individuated biological species.

All of these cases of individual or unexpected emergence are problematic. Most of them have features not possessed by what went before or by the whole out of which they emerged. Yet all share one or other or both of the following features: (1) Some characteristic that, at first sight, seems to distinguish the individuated object from its background, whether that background is defined as other similar individuals or in terms of a time series. On closer examination, however, this individuality often seems to arise from our inability to discern related features in the background. For example, the striking superstar characteristics of outstanding generals, scientists, engineers, and managers turn out, on closer examination, to depend on remarkable, but invisible, contributions from a wide range of other people. For example, the contributions of scientists depend, not only on the contributions of thousands of other scientists who came before them, but also on the contributions of those who have established the institutional arrangements which enable them to do their work – on tax gatherers, equipment manufacturers, editors, publishers, and arrangements to protect their

intellectual property. Indeed, one of the *processes* of emergence that, as I have already hinted, we need to understand is the seemingly accelerating and increasingly efficient process of not only rendering these contributions invisible but actually denying people the opportunity to develop one or other of the range of qualities that are crucial to the creation of cultures of innovation and enterprise; indeed for continuing evolution itself to occur. (2) The second characteristic of most of these examples of continuing or sudden (transformational; change of state) emergence is that they arise from a complex network of mostly mutually reinforcing feedback loops which it behoves us to seek to understand and map. These loops importantly set each example of what seems to be individual emergence in a context of environmental factors. Instead of attributing things to single and obvious causes – such as, for example, attributing the progressive tendency to deploy only "single factor" models of ability to the requirements of capitalism – we need to map these networks of forces.

Let me amplify these points.

Without Concepts One Cannot See

As we have seen, one reason we find instances of personal emergence surprising, "extraordinary", or inexplicable is that psychologists have not developed an appropriate framework for thinking about and identifying individual differences. The "extraordinary" seems to "come out of the blue" because we are unable to see the range and diversity of the superstars around us. Without atomic theory and the techniques of chemical analysis we would be equally blind to the endless range of substances that surround us and thus react with amazement to individual chemicals, crediting them with magical properties. Without ways of making the equivalent diversity in human nature visible we are not only unable to meaningfully discuss such things as the processes of individual development, education, and child-rearing that lead to seemingly extraordinary individual accomplishment, we are also unable to describe the seemingly more mundane (but actually equally amazing) processes which lead to what is, in reality, the huge variety of extraordinary accomplishments. Without these concepts and others at an appropriate level, we are unable to see or discuss the emergent properties of groups that have been almost entirely neglected by psychologists. Until we have appropriate concepts and measurement procedures, we will continue to be unable meaningfully to identify the effects, both positive and negative, which parents, teachers, managers, and public servants have on individuals and collectives and thus continue to regard them as amazing or magical. At this point we may note, as an aside, that, without such concepts we will continue to be unable to manage our schools, institutions, and society effectively because we cannot hold our public servants and managers accountable because we are unable to see the effects of their actions. As a result we will continue to be unable to introduce any form of democracy worth the name because, as Mill has underlined, if the word has any meaning at all, it involves "making visible to everyone who did everything and by whose inaction anything was left undone".

But there is a possibility that psychologists' neglect of this area may arise, not just from idle neglect from the field, but actually be produced by – emerge from – a network of hidden sociological forces which *lead* to its neglect. It might, in short, arise

from the emergence of what we could, for the sake of a better word, term "the death virus" .... a process of emergence that it could well behove us to focus on.

In support of this proposition let me note that Charles Spearman, who was the first to notice that the correlations between what had previously been taken to be measures of different forms of ability – mathematical ability, scientific ability, linguistic ability, and so on – could be accounted for by positing some common or *general* underlying psychological process (which he carefully avoided naming) also observed that:

- "Every normal man, woman and child is a genius at something as well as an idiot at something. The problem is to identify at what ... at least in the case of the genius. Our current psychometric procedures are unequal to this task. Nevertheless I am convinced they are capable of vast improvement."
- The tests whose intercorrelations led to the identification of *g* amazingly not only lacked construct validity when considered individually (in the sense that, for example, tests which purport to measure "scientific ability" in no way measure scientific competence), when considered collectively as a means of indexing overall educational achievement, corrupted, indeed inverted, the very meaning of the word education itself. The word "education" comes from the Latin root "educere" – which means "to draw out". It therefore implies a process through which educators identify and nurture the diverse and idiosyncratic talents of all pupils, not a means of grading all pupils on their ability and willingness to gain temporary mastery of a smattering of disconnected snippets of "scientific" or "historical" information.

Attention has already been drawn to some of the devastating implications of these observations: Without a framework akin to atomic theory to describe individual differences and the emergent properties of groups we cannot begin to meaningfully identify and discuss problems of individual emergence in humans; we cannot manage our society effectively, and so on. Yet in the century that has intervened since Spearman recorded his observations we have failed to develop such a framework.

Readers unaware of my background will no doubt think that this statement displays profound ignorance of my subject matter. Yet, if you look at developments over the last century, you will see that that statement is altogether to weak; that what has taken place has been positively perverse – and on the face of it inexplicable. What has emerged has been, not a framework for considering diversity, but its opposite: the progressive hegemony of a *single-factor* model of ability which progressively renders all other forms of "ability" invisible.

This "development" has not been confined to the field of psychometrics. The possibility of using any other framework has simultaneously been progressively undermined by a network of related "developments". Responsibility for children's educational development in the UK has been removed from parents (whom, as I showed in my *Parents Teachers and Children*[4] know more, and care more, about their children's idiosyncratic talents than anyone else) and arrogated by the Minister for Education. These Ministers for Education have, step by step, driven through a single-factor, content-based, curriculum which prescribes, minute by minute, what teachers shall do and linked it to draconian centralised forms of assessment which are in turn directly linked to teachers' tenure and pay. As if all this were not enough, all progressive

schools were closed by Prime Ministerial decree. Even private schools set up to cater for those who found it difficult to fit in to state schools have been forced to conform. Steps were even taken to close Neil's Summerhill. Although, this was stopped by court action[5], what emerged in the course of the court's proceedings reveals the lengths to which people are prepared to go to eliminate diversity. Occupational selection and placement is also *increasingly* dominated by a grotesque caricature of Spearman's g. Psychologists who at first sought to describe and account for all the varieties of human "personality" in terms of 16 "variables", now talk in terms of 5. The process is self-legitimising for it renders both invisible and undeveloped all other variants of human ability and motivation.

To drive home the implications of the first of the points I am making here, I would ask you to consider where chemists would have got to if they had sought to describe all the differences between chemical substances in terms of 1, 5, or 16 "factors". Where would biologists have got to if they had tried to account for all the differences between species in terms of 1, 5, or 16 "factors"? To repeat, if we wish meaningfully to discuss the emergence of particular properties in individuals or groups we simply must first develop a conceptual framework which enables us to identify and think about them. And not merely the individual elements, but also the way in which they combine with each other to form compounds (copper sulphate has properties which cannot be discovered by adding the properties of copper, sulphur, and oxygen) and compounds combine to create still other emergent properties of groups and societies. And the framework needs to enable us not only to describe individuals and the emergent properties of groups but also the way people and groups relate to their social environments – in chemistry a substance does not have properties except in relation to a specific environment. "In the context of sulphuric acid, copper will be transformed into copper sulphate and water, giving off sulphur dioxide."

The Socio-Cybernetic[6] Process Behind Invisibility

But, focussing now on the second, and possibly more sinister, part of the problem that is emerging: *Why is it* that, over nothing less than a century, society has *increasingly* embraced this caricature of Spearman's g – mis-labelled as "ability" – as *the* basis for thinking about individual differences and legitimising hierarchical social organisation?

It is easy to say and to see that the adoption of a single-factor model of ability – a monocultural model of the mind – feeds into our cultural drive toward our self annihilation as a species, taking the planet – Gaia – with us. It is easy to attribute its progressive hegemony or emergence to the "needs of capitalism". But to suggest that this is a sufficient *explanation* of what has been happening is altogether inadequate. For why should our species so comprehensively embrace a death blacker than any that Gaia has previously wished upon us, a drive toward self-extermination that will, in all probability, mean the end of all life, never mind all "intelligent" – thoughtful – life in the universe?

Gaia's Deadly Virus: Homo Sapiens

Before returning to the task of trying to map the network of socio-cybernetic forces that are driving us toward extinction, let me, with the aid of Vandana Shiva[7] link the processes I have been describing to some others. These include:

- The progressive introduction of monocultures in agriculture, in the media, and in society. The portrayal, worldwide, of the American Dream as *the* good life despite its actually being the most destructive and unsatisfying way of life that the world has ever seen is largely achieved by failing to portray its downside. This is partly achieved by the hegemony of materialistic concepts of wealth which render other features of the society invisible, partly as a result of some kind of conspiracy of silence, and partly by presenting anyone who tries to argue against it as "crazy" or "irrational". The monoculturalisation of society has been brought about by economic imperialism and subterfuge (the requirements of the GATT, MAI, GATS and WTO), and the spread of domineering and destructive business arrangements. Note that this process of monoculturalisation is particularly disturbing because diversity is crucial to evolution.

- The promotion via public political acclaim of a form of "multiculturalism" which will actually lead to its destruction by grasping isolated, de-contextualised, features of, for example, ethnic groups (such as food recipes[8] or clothes) and using them to legitimise the spread of monoculture, thus eliminating all the genuinely *cultural* (i.e. group connectedness) components that are essential for growth.

- The perpetuation and promotion of a form of science – which may be termed "reductionist" science – which focuses on *single* outcomes (e.g. "crop yields" in agriculture, "academic performance" in education, or "GNP" in economics) thereby rendering invisible the things which would come to light if the preoccupation were with *comprehensive* science – i.e. with getting a rough fix on *all* the important, personal and social, short- and long-term consequences of particular actions (e.g. *all* the effects of a pesticide, on all components biological outcomes, short- and long-term; *all* the effects of an "educational" process on all the characteristics of all the children and on society in the short- and the long-term) thereby destroying recognition of context, that is to say, of *culture* itself. This reductionist model is used to legitimise science that is (a) incompetent (how can an enquiry which ignores the most important outcomes of the process under investigation be said to be "objective" [viz. "scientific"]?) and (b) unethical (how can an enquiry which results in the perpetuation of severe damage to *homo sapiens* and the planet because it does not raise crucial questions and present appropriate data be said to be ethically neutral?). The hegemony of the model is also used in the ways described by Kuhn[9] to discredit other ways of proceeding and thus to destroy the credibility of others who might wish to embark on other forms of enquiry.

- A particularly important example of the distorting power of reductionist science is to be found in the area of economics where we encounter: (1) a single-factor measure of wealth – "GNP" – which is actually unrelated to most important dimensions of quality of life, (2) a quest for single "causes" of wealth-creation – such as "free trade" and "investment", and (3) calculations of

efficiency which exclude from consideration most of the most important inputs and outcomes because they cannot be commoditised, reduced to financial terms, and fed into an economic "model".

- The hegemony of the economic determinism embedded in market theory. Economic greed is presented as the main – indeed more or less the only – motive for both action and corruption. The vast variety of human motives and sensitivities are eliminated from view.

- The progressive emergence of the hegemony of both hierarchical organisation itself and the myths which support it by claiming that, on the one hand, it is an efficient form of organisation and, on the other, that it ensures that influential positions will be filled with the "most able" (implying public-spirited) individuals – when they are in fact being filled by the most gullible and most concerned with their personal advancement – and often by those least concerned with other people and society and those least able to question and think for themselves about societal issues.

- The universal destruction of academic freedom to enquire and advance understanding in the universities. This is partly achieved by demanding "relevance" to "economic" problems but also, somewhat paradoxically, by demanding evidence of performance. To satisfy these criteria, academic staff must spend a great deal of time writing proposals to obtain grants. These proposals must not only be relevant to sponsor's (meaning government's and TNC's) priorities, they must also be supported by references to previous work in the area – that is to say, to work which has presented no threat to the established social order. Together, these constraints stifle adventure into the unknown and especially any research likely to produce results which will threaten the status quo. The results must then be published within a very short period of time. This means that there is virtually no time for the actual research phase of the project and certainly no time to re-define the problem in the light of initial observations or reflect on the implications of "chance" observations. But beyond that, to get past reviewers and thus be published, the report must not say anything the reviewers could dispute (which means that it should not say anything new or controversial), and, in order to avoid the risk of offending potential referees sensibilities, must mention every conceivably relevant prior publication by others in the area. The process not only destroys the research role of the universities, it also ensures that university staff have no time to involve students in the process of enquiry and thus no time to lead them to develop the competencies required to adventure into the unknown.

- Centralisation of the control of information. In the UK it is, to all intents and purposes, illegal for anyone who knows anything to say anything. Thus, not only is it illegal for anyone working for central or local government or any Quango to say anything without the prior approval of government, this is also true if one has any public money at all. Research contracts have not only been modified in such a way as to deprive the researchers of the right to say anything without prior approval, but also actually to give government the right to alter the *figures* in the report; to doctor its findings at the most basic level. No one working for any previously nationalised industry may say anything which might jeopardise the future profits of that organisation. And, as if all these safeguards were not enough, (as became clear in the wake of what came to light following the leak of the proposed Multinational Agreement on Investment to the internet

and the subsequent meetings of the WTO in Seattle) the terms of the Agreements which governments have signed (in secret) between themselves have made it illegal – against the threat of huge debilitating fines – for anyone to say anything which might jeopardise the future profits of Trans National Corporations (however true the information may be) and for the trial to take place, not in a court of law, but in a secret tribunal presided over by three members of those TNCs themselves! These arrangements give governments and the TNCs virtually complete control over information and the right to suppress all counter information (especially any that might have a respectable research base). The only public debate that is allowed is debate between the ignorant – and informed by such mis-information and dys-information as the government and the TNCs choose to insert ... and such debate is in fact encouraged via the media and the internet.

- The centralisation of economic and social control not only within countries (and collections of countries like the EC) via the usurpation of local control, but also, as discussed above, in a more clandestine but more powerful manner by the nested set of institutions consisting of the EMU, the IMF, GATT, MAI, GATS, and the WTO. Conditionalities for entry to the EMU and "rescue" by the IMF from (largely TNC and IMF – generated) financial crises require the privatisation (i.e. not only sale to the TNCs but also government support via taxation thereafter) of e.g. road-building, transportation, healthcare, and insurance and pension services, and the reduction of legislation protecting local communities and the environment and the number of, and restriction of the terms of reference of, public officials monitoring the effectiveness of such legislation[10]. The GATS undermines all attempts to preserve and protect local organisations, local peoples, and the environment[11]. As we have seen, the MAI and WTO agreements more generally have made it illegal for anyone to comment on any doings of the TNCs in a manner which might damage their future profitability[11].

- The restoration to the law of the function of diverting attention from the doings of the king, resolving disputes among the nobles to the king's advantage, and persecuting the peasants for trivialities like stealing a loaf of bread. In the current scheme of things the loaves of bread have been replaced by cannabis-smoking, shoplifting (specifically encouraged by the displaying goods in such a way that they can be picked up and handled without supervision), and making false social security claims (the perpetuators of which fill our prisons) while the reduction of civil liberties – including the right to protest and even to associate or express a point of view – proceeds apace. Meantime, the inability or unwillingness of the law to tackle fraud involving billions of pounds, tax evasion by the TNCs on a similar scale, as well as the provocation of mass murder (for the same of arms sales) and the destruction of the environment continues virtually unchecked.

- The wholesale destruction of civil liberties (as continuously documented by e.g. *Liberty* in Britain): the introduction of a swathe of legislation empowering police to confiscate people's homes on the merest suspicion of "probably" being involved in "undesirable" activity – untested in court – or of even speaking to someone who just might be a member of an unidentified illegal organisation whose classification as "illegal" is itself based on flimsy and secret claims ... of legislation legitimising the forced "treatment" (by drugs) people

whose behaviour is said to be potentially a danger to others (unspecified) although they have never been known to engage in any such activity ... of legislation vastly increasing the penalties for anyone who has any government money sharing any information without permission ... and the installation everywhere of public surveillance cameras.

Let me now look at two of these processes – the process whereby the international banking community has come to rule the world and the cancerous creation of work – in slightly more detail.

Problematics in the emergence of the central role of the international banking community.

It is easiest to illustrate some of the problematics associated with the emergence of the dominance of banking using examples drawn from Monbiot's book *Captive State: The Corporate Take Over of Britain*[12], where further details can be found. Although Monbiot's work focuses on the UK, international examples of the same processes can be found in books like those of Korten[13] and others summarised in my *New Wealth of Nations*[14].

Monbiot describes a whole series of extraordinary – and alarming – recent "developments" in Britain. These ranged from the building of the Skye road bridge, through the privatisation of the railways and the hospitals, the hospital and road and bridge building programmes, to the "development" of whole city centres and out of town shopping areas. In each case, judicial and planning processes were over-ruled, planning decisions intended to be in the public interest were simply bought, the disbenefits to public amenity enormous, and the costs to the public purse tens, even hundreds, of times what they would have been had traditional funding procedures been followed. It is easy to say that the international banking community drove successive British governments to establish the Private Finance Initiative which was then used to suck vast amounts of public money into the coffers of the Bank of America via and so on.

But that is altogether too glib. These were no mere centralised capitalistic plots. Hundreds of thousands of people – very many of them public servants – were involved, not only in pushing through and administering the swathe of relevant legislation (which would be understandable enough, although one might have expected more protest), but in actively orchestrating endless misrepresentations, secret, successive, progressive modifications of clauses, evasions of the law, and engineering deliberate miscarriages of justice involving bringing some cases forward and distorting the representation of the law to secure favourable judgements and delaying hundreds of others. The process is reminiscent of the way in which hundreds of thousands of people, under Hitler, actively invented better ways of persecuting the Jews for no personal benefit other than the satisfaction of having contributed to a social movement. However, since the present movement commanded much less public acclaim, it is actually even harder to understand.

It is, perhaps surprisingly, even necessary to start by asking how it came about that the Labour party was corrupted into pushing along these measures even though the cost to

the taxpayer was several times – *hundreds* of time in some instances – what it would have been had the government itself borrowed the money and even after survey after survey had shown that the public would in fact be prepared to pay higher taxes for many of he services. At the risk of being seen to be seen to be making only a cheap political point, one may ask for a serious case study of how it came about that the British Labour party – without at least any visible protest – chose as its leader someone who was conspicuously a psychopath, liar, confidence trickster, and puppet of the banks and the TNCs? And how come most people still think he is well intentioned, concerned with the public interest, and open to persuasion to act in the long-term public interest as distinct from the interests of the TNCs (even though, as will be argued later, implying that it is the TNCs who are behind it is to beg the question)? Problematising and investigating such questions is probably one of the most important tasks for social psychologists, for the question of why we have such a deep seated tendency to think well of authority lies at the heart of the tendency to actively invent "better" ways of implementing deeply unethical commands and to castigate rather than support anyone who fails to do so.

How does it come about that Ministers in office have not only continued to implement, but actively elaborated, so many policies whose fundamental weaknesses they had seemingly not merely known all about, but actively publicised, when they were in opposition?

But explaining these things is the least of our problems. More difficult to understand is how it comes about that hundreds of civil servants were involved in drafting the welter of hastily introduced legislation, subverting the legislative process, formulating subsequent cover ups, and undermining individual and public legal challenge that was involved in any one of these schemes – such as the construction of the Skye road bridge? We are not talking of one or two people – but of hundreds of public servants working in many different departments of both central and local government and dozens of "private" contractors in connection with each and every one of scores of schemes. If it is claimed that all this diffuse but co-ordinated activity was orchestrated by a foreign body – the Bank of America – how was it done and why did nothing come to light? And why were a whole series of diverse adjustments made in each case to divert more and more public money into their coffers? How was the trick pulled off again and again and again?

As Monbiot shows, we are talking about not just one scheme, but dozens, if not hundreds, of them. It is easy to say that the local developers of the out-of-town greenfield sites that are being used to build our new hospitals will make money out of it. It is easy to say and see that the privatised hospital companies will make money out of selling their city centre sites. It is easy to see that the out of town sites will inconvenience everyone and lead to more road building, car manufacture, and demands for public transport. But the *scale* of the fraud – the public and private money that is now being diverted into Bank of America – beggars belief. Even more disturbing is the concealment of the truth about the implications for the simultaneous future costs of health care and reduction in its coverage. The total number of people involved in perpetuating the fraud makes the mind boggle.

And the same with the railways, the roads, the water supply, the educational system, and virtually anything else one cares to mention.

Focussing more specifically on the educational system: Almost everyone knows that the system is a fraud. Yet tens of thousands of people have committed themselves to introducing and enforcing a system which renders the system even more fraudulent ... a system which achieves the manifest goals of the system even less effectively – but which clandestinely performs better than it ever did the twin functions of, on the one hand, creating and legitimising a divided society which has the effect (as I will discuss more fully below) of compelling most people to commit crimes against their fellows in order to avoid the consequences of not doing so, and, on the other, promoting the most gullible and concerned with their own advancement into influential positions. A system which, while claiming the opposite, kills all enquiry and stifles the development of the multiple talents that are required to investigate and tackle social problems. A system which creates monocultures of mind and destroys the diversity required to create cultures of enterprise and innovation.

It is easy to see all this. But how come so many people have been induced to work so hard at the creation and implementation of such a destructive system, including the generation and diffusion of supporting mythology?

Over and beyond this corruption of schooling lies the destruction of the universities: thousands of people involved in making the institutions "more efficient", eliminating the time for thought on the part of lecturers and students, removing the scope for free enquiry by making tenure dependent on publications – 95% of them saying nothing – and the others dependent on external funding that gives governments and the TNCs control over the topics to be investigated and the "findings".

Then there are the millions of people blindly pressing for a united Europe ... and a common currency ... when it is clear that the only people who will benefit are the international capitalists and that that united Europe will contribute still more to the destruction of our habitat as goods and people are shipped across the continent in ever-increasing numbers. How does it come about that governments have, as demonstrated at The Other Economic Summit meeting in Birmingham, secretly agreed that, as a condition for joining the EMU, they will disband their public health, insurance, and pension services, privatise the railways, power supplies, water supplies, housing services etc. etc.?

The cancerous creation of useless work.

Returning now to the topic of the cancerous creation of useless work, the question is not only how it comes about that so many people have been induced to participate in the production, marketing, and delivery of such things as junk foods, junk toys, junk education, junk insurance, and junk defence but also, as McKnight[15] has noted, how we have created so many jobs for useless social workers, truant officers, psychotherapists, guidance counsellors, and others. The process is mapped in the following diagram.

INSERT DIAGRAM

Our societal inability to stem the spread of this cancer, this Parkinson's Law gone mad, despite widespread recognition that the work concerned not only constitutes useless activity but actually consumes vast resources and generates the pollutants that are heading the planet toward destruction, cannot be viewed as other than revealing a deeply disturbing problematic.

It begins with the invention of a category of "need": "children", "old people", "the unemployed". This is followed by the creation, on the one hand, of legislative prescriptions, and, on the other, of a category of professional "carers": teachers, truant officers, curriculum developers, guidance counsellors, bereavement counsellors, social workers, and medical auxiliaries. And this in turn by an army of bureaucrats assessing entitlement to special education, any one of dozens of overlapping social services for those who are unfortunate enough to live in impoverished communities, entitlement to old people's housing, and so on. Note that, in most cases, the growth is dependent on enactment of legislation compelling participation or offering entitlement to (usually private) services that are either paid for by the state or dependent on taxation *arrangements*[16] – not necessarily direct tax benefits – which render other options non-feasible.

The result has been the growth of an "educational" system which breeds incompetence and mainly performs *sociological* functions, the growth of old people's "caring" systems which undermine community care and prolong low quality life, and the growth of a legal system which breeds crime. The amazing outcome has been the growth of the "service" economy from 10% to 80% of the economy within a single century.

Although this system may appear to be *sui generis* and *internal* to an economy, it is, in fact, nothing of the sort. This is because it is only able to deliver the presumed-to-be-necessary materialistic components of life to all those involved in executing the useless work and delivering the unnecessary services by sucking resources from the rest of the world, from the energy stored in fossil fuels, and from the future. That is, the real costs of this useless work, like the true costs of materialism itself, are externalised.

The process is correctly described as cancerous: it involves the re-direction of the normal processes of differentiation (cell division) into dysfunctional activity. It involves the ability to transform the functions of other organs (e.g. the educational system) to support the cancer (for example by the creation of differentials which compel participation in unethical useless work) instead of performing their original function. It involves the diversion of resources away from those who need them (the functional cells) to the parasitic carers.

Now cancers usually have multiple causes and alternative causes. They may arise within the cells or from the connections between the cell and other cells and through them to the environment. The implications are that, if we wish to understand the process, it is necessary to study connections and feedbacks; that is to say, it is

necessary to make a socio-cybernetic map of the process such as that presented in the diagram.

If we wish to influence the process, one thing we might ask is "What damps the process we have just described down?" Morgan[17] has suggested that, if we can identify these negative feedback loops we might be able to amplify them. In this case, as McKnight shows, the answers include: (1) declining resources for the professional carers; (2) public awareness that the process does not work as they had hoped – which leads to demands for control and "management"; (3) awareness among the carers themselves that what they are doing is not really worthwhile: that they are often spending time on those who don't need help while actually unable to help those who really need it. Social workers, for example, become aware that they cannot do what a decent income and a network of contacts would do, yet their rules and procedures preclude the such developments. Teachers teach children what they don't need to know and cannot help those who have serious difficulties. They become aware that they are caught in norm-referenced systems which have somehow evolved to ensure that everyone has to work harder to stay in the same place.

Even more importantly it becomes necessary to *design* a socio-cybernetic system which will enable us to get control over these hidden forces so that they push us where we want to go instead of crashing us against the rocks.

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If I am right in seeing some commonality in the above processes, the emergence of hierarchy, the mythology of the efficiency of hierarchy, the mythology of the efficiency and effectiveness of the marketplace, the obscurantism of economic theory which renders invisible other criteria of wealth, the emergence of capitalism, the antics of elites and capitalists and capitalist governments, and, paradoxically, the writings of Marx which attribute all ills to capitalism, are all *expressions* of the same process. They are all symptoms, not causes. It is not plotting capitalists or elites who perpetuate the system: the elites, the views they express, and the actions they take are all somehow chosen and selected because of the functions they play in a deeper and hidden system.

What are the forces which drive these interlinked processes? How are we to intervene in them? If they are symptoms, rather than causes, of our problems, how far can we get by advocating comprehensiveness in science, seeking to encourage the funding of mavericks in the scientific process, by making explicit other criteria of wealth, by changing our societal and institutional organisational arrangements, by insisting on the right to experiment along different lines and to determine the criteria against which those experiments are to be evaluated? If these are not appropriate strategies, what else to do? How, other than by experimenting with these tools on the basis of what we know, are we to gain insights into the processes we have not so far observed?

It is often argued that we need a new ethics or new values to get out of the situation in which we find ourselves. But this is not the case: 80-90% of the population want the educational system to nurture and recognise the diverse talents of children, not to arrange all on a single hierarchy; similar numbers want it to nurture in pupils the confidence and initiative required to introduce change. It simply does not do what

people want. Likewise, some 40-50% know that we have to get rid of our motor cars, our banking and taxation systems, and our defence systems and to replace our drugs-based "health care" systems by community care.

As for the need for a new ethics – most of us find ourselves committing hundreds of unethical acts every day.

We pay taxes which:
- ♦ Support the war machine.
- ♦ Support dominators.
- ♦ Are invested in "aid" programmes which further exploit the Third World[18].
- ♦ Support 'health care' programmes which do not improve health but rather deflect attention from the causes of ill-health: poverty, pollution, poor housing, isolation, inappropriate living and working arrangements, decimation of families etc.
- ♦ Support education programmes which generate incompetence, manufacture differentials which compel participation in a dysfunctional society etc.
- ♦ Are used to build highways which transport identical goods in opposite directions using trucks which consume vast quantities of fuel.
- ♦ Support social workers who impose their definition of "the problem" on other people and take children "out of poverty" instead of remedying the poverty.

- We vote in elections – i.e. *for*: (1) dominators who, at best, seek to cure problems caused by social systems failures and the previous acts of dominators by domination; (2) a system preoccupied with talk focusing on diversionary issues – such as health budgets and arrangements, educational arrangements, and transportation arrangements; (3) a system which behaves as if it were designed to preclude citizen participation, systems change, and catering for diversity; (4) a system which, at the end of the day, demands the abdication of personal responsibility by insisting that it be usurped by "those who know best"; *they* will solve our problems when, in reality, it is only we (collectively) who can do so. By voting, we therefore contribute to a system which obfuscates, mystifies, and disempowers.
- We invest in banks and building societies which (as many authors whose work is summarised in my *New Wealth of Nations* have demonstrated) suck money and resources from poor communities, acquire ownership of their productive capacity, and promote the growth of the rich and the powerful.
- We buy newspapers and, in this way, reinforce (1) the images they convey (largely through advertising) of the good life and thus their ability to corrupt minds, (2) the myths they propagate about the workings of society (and especially with power and materialistic economics), (3) the diversion of public discussion into trivial issues like (perverted notions of) pornography (the real pornography consisting of the images that which dominates our TV screens and newspapers), (4) a preoccupation with "knowledge" to the exclusion of action, and (5) contribute to the destruction of the rain forests.
- We buy foods produced by energy and chemical intensive agriculture and airlifted backwards and forwards around the world, packaged in plastics derived from fossil fuels.

- We buy goods made in China, Indonesia, and elsewhere which have both destructive effects on their producers and require air freighting – air freighting which depends on huge subsidies from the poor and generates enormous amounts of pollution.
- We use computers, the manufacture of which pollutes huge quantities of water and destroys fish stocks.
- We use electricity generated by gas or nuclear power which uses vast amounts of water for cooling and destroys fish stocks.
- We contribute to the development, production, and marketing (including financial services and advertising) of junk foods, junk toys, junk insurance, junk investment, junk education, junk health care, and junk research.
- We contribute to the destruction of community care and its replacement by carers, police, social workers, tranquillisers, and drugs based medicine.
- We claim to care when those we claim to care for either do not need us or are beyond our help.

So it is not our ethical *codes* that are the problem: it is our inability to implement them. We simply cannot, as individuals, without denying our humanity, avoid enacting most of the sins just described.

Note that the individualisation of ethical codes is part of the problem. It is assumed that individualised prescriptive codes which tell us not to do undesirable things will somehow result in social change. Yet that is clearly not the case. What is needed is pervasive determination to contribute to the common good. Thus, in so far as a new ethics *is* required, it is a code which includes among the prescribed activity a requirement to contribute in one way or another to the necessary societal change – i.e. to contribute to changing the constraints which lead us all to behave unethically.

But the disturbing fact is that, to change the trajectory on which we, as a species, find ourselves, we need to bring about a change as great as that from a hunter-gatherer to an agricultural society. And just as no one in a hunter-gatherer society could envisage what an agricultural society would look like (never mind draw up any blueprint of how to get from one to the other), so no one in our society can envisage what a sustainable society would look like or draw up any meaningful blueprint of how to get there.

It follows that we not only need to map the network of socio-cybernetic forces we have briefly exposed, we also need to orchestrate a huge programme of social innovation, learning and action. What is the nature of the public management system – the *designed* socio-cybernetic system – required to do this? Adam Smith and Fred Hayek thought they had an answer. But, for reasons outlined in my *New Wealth of Nations* it does not work. What are the alternatives?

Goldsmith[19] has outlined one possibility; Bahro[20] another, this time based in Buddhism. I have developed one based on acknowledging the role of the public servant, changing our understanding of "democracy", and developing more appropriate arrangements for innovation and learning[21]. Some of these were summarised in my paper in the *Proceedings* of the previous conference[22]. All that can be done in the space which remains here is to underline the need for developments in the scientific paradigm within which these problems have previously been located.

What we have seen is that the processes that are driving us toward the destruction of life are much more deep-seated and complex than the writings of most sociologists would have us believe. Let me take an example from physics to make the implications more explicit. Prior to Newton, if things moved it was because they were possessed of animal spirits ... they were *animated*. Likewise, prior to Newton, it was impossible for sailing boats to sail into the wind. Newton made three crucial observations: (1) If things moved (or changed direction, or stopped moving) it was because they were pushed or pulled. (2) To every force there is always an equal and opposite reaction; the problem is to identify it. (3) The forces acting upon a body can be resolved into orthogonal components.

The first of these implied that the wind was not animated. Instead of praying to the gods for a favourable wind, one should set about trying to harness the relevant forces to do useful work for mankind instead of allowing them to crash us against the rocks.

The second observation implied that there must be somewhere an equal and opposite force to the wind. A quest to identify that force led to its being found in the sea. And a search for ways of harnessing that force led to the addition of keels to sailing boats.

The third observation led to the realisation that the opposing reactions of the wind and the sea could be resolved into a component pushing, if not directly into the wind, at least in a direction which enabled one to tack into it.

These remarks imply that the first thing we have to do is to de-animate the forces that are driving us to destruction. We have to stop blaming (and wringing our hands about) the capitalists. Instead, we have to see them as *expressions* of a network of hidden forces. They are selected and promoted and behave as they do because of those forces. What is more, people who behave in ways which resemble the behaviour of capitalists are not few in number: they are located throughout society. Then we have to identify those forces. And after that take steps to harness them ... a relatively naïve suggestion that nevertheless illustrates the point is that including measures of a wider range of the outcomes of education in the certification and placement processes used by schools would drive schools towards doing the things we want rather than away from them.

But beyond the developments that depended on the work of Newton and others – that is to say on classic academic inputs – developing a network of relatively safe sailing boats also depended on the emergence of a complex socio-cybernetic system: It was necessary to accumulate a library of charts, to evolve sextants and chronometers so that one could know where one was, to erect lighthouses, to develop means of paying lighthouse keepers, and so on and so on.

Parts of this system evolved relatively naturally, but other parts – such as the development of chronometers – required enormous purposeful public investment.

Many of the implications of what has been said for what we have to do will now be obvious. But I want to make one last remark to counter the pervasive air of defeatism that confronts us.

Many have asked "Are we strong enough to fight these dominators, these capitalists and politicians?"

This is analogous to asking "Are we strong enough to fight the wind?" It is the wrong question. What we have to do is to understand and to map the relevant socio-cybernetic systems[23] and then use our insights to develop alternatives. As numerous scientists have discovered over the course of history, the personal costs of challenging conventional authority can be enormous. But collectively – and with superhuman individual contributions – it was accomplished. To us now falls the mantle of carrying the process forward.

Notes

1. Cortez was a lawyer who raised his own band of militia men, then found locals to assist in the process. Then, when these were destroyed, raised still more: Almost the only moving force and constant element was Cortez himself. There was no bank or government militia behind him.
2. Herer (1994) describes of the amazing steps taken by the Dupont Chemical Corporation to eliminate the competition of hemp and its by products from its market for synthetic fibres and drugs. They first invented the name "marijuana" and then, by securing a series of appointments, engineered the passage through the US congress of legislation criminalising its smoking and therefore the growth of hemp. Numerous similar accounts, over a longer period of time, will be found in Grossman & Adams (1993).
3. See McKnight (1995) for more detail.
4. Raven, 1980
5. What came to light in the course of the court case bears examination in the light of what will be said later about the remarkable ability of the state to engineer a complex network of mis-representations and cover-ups.
6. Cybernetics is the study of guidance and control systems in animals and machines. So *socio*-cybernetics becomes the study of the hidden guidance and control systems of society.
7. Shiva, 1998
8. The British Foreign Minister nicely illustrated this process by announcing that the alleged fact that Chicken Tikka is now Britain's most popular meal shows that we have become a multicultural society.
9. Kuhn, 1962/1970
10. See Roberts (1984), George (1988), Hancock (1991), Eringer (undated), Bilderburg website.
11. Coates (1997), WDM in *Action,* Summer, 2001.
12. Monbiot, 2000
13. Korten, 1995
14. Raven, 1995
15. McKnight, 1995
16. For a discussion of the way in which the arrangements that are made to pay for communal services affect the apparent costs of alternatives see my *New Wealth of Nations* (Raven, 1995).
17. Morgan, 1986
18. George, 1988; Hancock, 1991
19. Goldsmith, 1992
20. Bahro, 1986
21. Raven, 1995; Raven & Stephenson, 2001
22. Raven, 2001
23. Raven & Navrotsky (2000) have sought to explicate some of the technical problems involved in doing this.

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Feedback Loops Perpetuating and Damping Work Creation.

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Belief that work is only entitlement to income
Belief that professional care is "better".
Recognition that work provides many important components of QoL

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Absence of means of orchestrating innovative communal action in the long term public interest.
Absence of ways of measuring non-materialistic components of QoL, ie monitoring "the body".
Absence of means of taking action on the basis of such information even if it existed.
Viz: absence of appropriate monitoring and feedback mechanism.

Cancerous growth of work. People are continuously on the look-out for new "needs" (eg bereavement counselling) that they can claim to help satisfy – and charge for satisfying. They then set up networks of such specialist "carers" and these groups lobby for public funding of their work, for special training programmes, and exclusivity in providing the service.

Hierarchically divided society: people can't stop working even if they know what they are doing is wrong because they know that they will be subject to dehumanising and degrading treatment.

Diversionary ethics: failure to recognise that most modern work is unethical; ie not in the long term interests of individuals or society: failure to count sins of omission: eg failure to get together with others to understand and influence systems processes.
Discussion of such issues perhaps being "deliberately" concealed by diversionary focus on "pornography" and "ethics committees".
Acceptance of sex would *really* undermine non work.

Professionalisation, commoditisation, and sale of services: insurance, crime control, health care, social security, care of the "needy", of children, the sick & old etc.

Creation of junk foods, junk shampoos, junk packaging, junk insurance, junk education, junk research, etc.

Creation of much satisfying work – demanding creativity, engagement, etc in generating new products, adverts, marketing materials, displays etc.

Creation of "satisfying", people-oriented. work.

♦ Destruction of community
♦ Destruction of families.
♦ Individualisation of economic well-being: creation of stress, heart disease, cancer, lack of care about community.
♦ Through continuous mobility, destruction of crime control, knowledge of how to care for children, how to rejuvenate the soils, how to vary treatment with the soils.
♦ Inability to handle incompetence

Reaction against "professionalisation"

Consumption of enormous resources: destruction of quality of life and the planet. Destruction of food base.

New values but don't know how to introduce

Awareness that there is something seriously wrong.
"What could I do that would be worthwhile?"

Reaction of powerful elites

Protest groups, but focussing on "capitalists" or "love nature" and failing to see need to understand (ie for research) and to develop forms of public management that will act on information in an innovative way in the long term public interest.