THE DARK SIDE OF THE MEME

The Irrational as a Limit To Time itself.

Can sapient humanity survive the threats to its existence coming from within its own species, in the age of global warming and WMD? A number of distinguished writers including the astronomer Martin Rees have recently suggested that the 21st century could see the extinction of the human species by its own hand, either as a result of religious fanaticism, or by some Malthusian moment of global economic shortage, provoking a chain reaction of mutually destructive wars. The paper explores certain cultural forces which currently seem to lend momentum to such threats. By way of a discussion of functional vs dysfunctional polities, it identifies dysfunctional polities as attractors of strongly irrational belief-systems in the form of utopias of race, class, or religion, variously threatening to human life itself. It develops an extended theory of the meme to differentiate between the strongly irrational forms of religious culture which in the 21st century seem to pose the greatest threat to human survival, and the weakly irrational mass culture of the Western world, which for all its consumerist orientation, seems to offer more flexibility in the face of changing economic realities. In identifying irrationality, whether in weak or strong form, as an assault upon rationality itself – a denial of the Aristotelian principle of contradictions – it argues for bringing the full force of rational argument to bear against irrational forms of culture antagonistic to human survival, in a context within which the first criterion of rationality is to recognise the irreversibility and universality of our own ecologically-based evolution, as a shaping force as much upon our culture as upon the biosphere of our small planet.

Keywords: Rational Relational Irrational Utopia Fundamentalism

No-one should be unduly surprised that the main threats to the survival of the human species itself today come from within religions, religions which feel their intuitive foundations under threat from the secular world-view due to rational science, religions seeking to turn back the cultural clock to when their own particular pattern of faith had a more complete command of the human imagination, religions which assert priorities higher than that of human life itself. Currently two main religious groups seem to pose the greatest threat to human survival: the Christian fundamentalists (`Creationists') who would return culture to the proto-Industrial age which first put a date on the age of the universe since its Creation in one wonderful week in [4074 BC]; the Islamic fundamentalists

(`Wahhabites') who would return culture to a state of pre-Industrial innocence untroubled by the conflicted modes of speculative thought which gave rise to the Industrial revolution in the first place. The threat offered by the Creationists is that in denying the evidence of human evolution, they must also necessarily deny its damaging effects on the planetary environment and thereby perpetuate the unrestrained Capitalism which is responsible for this damage, bringing ever nearer the moment when the damage becomes irreversible, possibly leading to a final Malthusian moment of catastrophic ecological collapse. (The Creationists of the Religious Right in the USA have in this respect arguably already enjoyed considerable success through their influence on President George W. Bush, reflected in his denial of the Kyoto Protocols). The threat offered by the Wahhabites is more tangible, in that their interpretation of the Koran legitimates the use of weapons of mass destruction against populations they deem hostile to their values, though as yet its effects have been more limited, reflecting the relative difficulty still of obtaining fissile or toxic materials and assembling them into an effective weapon. Meanwhile however a train of spectacular atrocities both before and since the 9/11 attack on the World Trade Centre has kept alive the spectre of greater mass murder still to come, as the Wahhabite militias progressively refine their offensive tactics and acquire more lethal instruments, whether in conventional high-explosive or as chemical, biological or thermo-nuclear devices.

What these two groups of religious zealots have in common is the pursuit of an irrational goal, a utopia of falsified time within which their own values prevail exclusively over those of all other faiths and opinions. In this they show us little that is new. The pursuit of two equally irrational utopias – the one of race, the other of class – was responsible for the deaths of millions and the misery of many millions more in the course of the 20th century. The Hitlerite dream of a Northern hemisphere of Slavonic helots serving an `Aryan' super-state might indeed have been imposed upon us, had it not come up against an equally stubborn irrationality in the Marxist-Leninist dream of a world reserved exclusively for the children of the working class, a vision subsequently implemented in some detail at the time of Mao's Cultural Revolution. That neither of these nightmare visions brought the human species to its ultimate moment speaks in the first case to a deficiency of weapons of mass destruction, and in the second to an unwillingness to deploy them against an antagonist comparably equipped with them.

The respective visions of Creationism and Wahhabism, seem each in their different ways potentially to pack a more terminal punch – the one for political attitudes which deny our planet's own warning signs

about mounting ecological risk, the other for its simple yearning for religious self-obliteration expressed in the ubiquitous suicide-bomber. In these circumstances it is surely time that we began to take seriously the phenomenon of irrational meaning as a destructive cultural force in the modern world: to ask how the mechanisms of irrational meaning are constructed, how they bind so strongly upon the mass imagination, and how (if at all) they can be opposed and successfully deconstructed. The present paper offers one way of addressing these issues, by way of a first tentative exploration of what we may legitimately call *the dark side of the meme.*

This was Richard Dawkins' famous opening definition of the meme:

> We need a name for a new replicator which conveys the idea of a unit of cultural transmission, or a unit of *imitation*. `Mimeme' comes from a suitable Greek root, but I want a monosyllable that sounds a bit like `gene'. I hope my classicist friends will forgive me if I abbreviate mimeme to *meme….*It should be pronounced to rhyme with `cream'
>
> Examples of memes are tunes, ideas, catch-phrases, clothes fashions, ways of making pots or ways of building arches. Just as genes propagate themselves in a gene-pool by leaping from body to body via sperms or eggs, so memes propagate themselves in the meme pool by leaping from brain to brain via process which, in a broad sense, can be called imitation.[i]

Dawkin's meme was a product of reductionist science and as such shares some of the limitations we have come to associate with reductionism as an intellectual strategy. It offers a focus on text, as one might say, without reference to context. In the wider world in which culture actually takes place, text and context come bound together. The way memes `leap from brain to brain' is conditioned not only by the qualities of the meme and the quantities of the brain, but by the cultural, social, political and economic circumstances within which the brain itself is placed and by which it is to some degree conditioned. For the purposes of this paper, I shall mainly distinguish between two kinds of evolutionary context, producing two sharply different evolutionary outcomes: *functional* polities in which the Industrial revolution has broadly prospered; *dysfunctional* polities, in which Industrialisation has brought more disadvantages than advantages. I shall suggest that dysfunctional polities form strong basins of attraction for irrational memes. Relatively more functional polities attract irrational memes as well, but generally in a weaker and more diffused form: the basin of attraction for a functional world behaves as though convex rather than concave.

It is of course still entirely possible to see Western civilisation, backlit by the glowing embers of a dying Marxism-Leninism, as a group of dysfunctional polities in which exploiters and exploited rotate timelessly together as in a latter day Dantean purgatory. Indeed it is a view which arguably adds interest to what might otherwise be a relatively dull study of steady techno-economic development sustained through peace and war. Where Marxism-Leninism has not already been put to the test and been found wanting – notably in those areas of academic life furthest from the facts of a globalised economy – it still clearly retains its appeal. But in order to develop a coherent view of the global economy as a whole, it is necessary to take a more balanced view: on the one hand recognizing that the advanced industrial economies of the West, whatever their flaws, are *relatively functional* as regards the options for life which they offer the majority of their citizens (long life-spans, clean water, working infrastructure and health services, a measure of protection under the law, a considerable amount of personal liberty); on the other hand acknowledging that where the Industrial revolution has arrived late, or been rushed into existence with great violence, or its benefits accrued exclusively to a wealthy elite, or has led to the eradication of ancient civilisations, many of the resulting cultures have been at one time or another, or still are strongly *dysfunctional* (low life-spans, unclean water, collapsing infrastructure and health services, little protection under the law, low levels of personal liberty). The source of these a-symmetric functionalities was, I suggest the skewed arrival of the Industrial Revolution in the first place: an ecological saltation from the manual to the machine mode of production for which there was no recognised precedent, which radically transformed mankind's relationship with nature, and which effectively wrong-footed the human species itself.

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The machine mode of production involved the coupling of mankind's tool-systems to industrially generated sources of energy offering ever-increasing amounts of predictable and controllable power, using at first coal, then petro-chemicals and hydro-electric, and finally nuclear fission.. In the process of thus empowering itself the Industrial revolution displaced an earlier and well-rooted *proto*-Industrial ecology, which had systematically coupled its tool-systems to *naturally*-available sources of energy in the environment, from the horse and cart to the four-masted man-of-war. Naturally-available energy is inherently less predictable and controllable than energy delivered directly from machine to machine. Nonetheless from the end of the 15th century onwards the

proto-Industrial West had used its ecological advantage over the less dynamic civilisations of the Agrarian world – still locked in an essentially manual ecology - to gain virtually unlimited access to their economic resources and their populations, and on this basis grow a series of overlapping empires, of which the British empire rapidly became the largest.

That said, there was nothing fundamentally new about Western proto-Industrial civilisation *per se*. It replicated in great detail the salient features of the Classical civilisations of Greece and Rome which had themselves been proto-Industrial in all but name. Indeed it was the rediscovery of the visual art, literature, science and philosophy of the Classical world – much assisted by Islamic scholarship in the 12th and 13th centuries - which catalysed the re-birth or `renaissance' of proto-Industrial civilisation in the West, leading on to the second great imperial age, a millennium after the collapse of the Western Roman empire.

When the proto-Industrial phase of human evolution comes to be more widely recognised and more systematically researched, it will also become obvious that neither Classical nor Western civilisations enjoyed a monopoly of the proto-Industrial ecology. Indeed if the collapse of Classical civilisation could be considered an involuntary `false start' for the proto-Industrial experiment, other equally impressive `false starts' were the result of voluntary termination. Islamic civilisation in the 12th and 13th centuries was comparable in its ecological development with the Classical and considerably more advanced that Western civilisation at that time, but its further development was arrested when its religious leaders decided that there was no further need for speculative thought in Islamic society and brought the Islamic `renaissance' to a close[ii]. As for Chinese civilisation: had the Ming dynasty in the 15th century not called back the immense fleets it had sent forth to explore the world and not subsequently destroyed the geographical information the fleets had brought back with them[iii], it is arguable on the basis of the advanced capabilities of Chinese civilisation at that time that the Industrial revolution might well have occurred in China first – instead of being brutally imposed upon the Chinese people in the 20th century by the combined efforts of Sun Yat Sen, Chiang Kai Shek, the Imperial Japanese Army and Chairman Mao-Tse-Tung

Imperial Russia, on the other hand, more or less single-handedly propelled out of its mediaeval mindset by Peter the Great, simply arrived late at the proto-Industrial party: late enough that it had still not shaken out its feudal structures by the start of the 20th century, a belatedly industrialised state rendered further dysfunctional by its military failures in World War 1 – thereby

becoming a natural attractor for the irrational vision of the working-class utopia envisaged by the Bolsheviks. The equally irrational biogenetic utopia pursued with fanatical determination by the Nazis, by contrast, owed its fatal attraction to the traumatic dysfunctionality of the formerly highly efficient Germany economy, following Germany's defeat in World War 1, its subsequent ravaging by hyper-inflation in the 1920s and by the Great Depression of the early 1930s.

The decline of the Ottoman Empire and Western attempts to replace its influence by successive interventions throughout the 20th century have contributed in their turn to the dysfunctionality of the Middle Eastern economies, particularly since World War 2. The cultural unpreparedness of Islam for the impact of Industrialisation and the fissiparous effects of aggressive nationalism have also been major aggravating factors here, as has been the arrival of immense unearned wealth through the Western dependence on Middle Eastern oil, bringing the financial benefits of Industrialisation without the speculative freedoms necessary for its sustained development. Further East, in Central Asia, the fall-out from the now collapsed Soviet dystopia has left its mark in a trail of corrupted republics along the old Silk Route.

In a longer treatment it might also be argued that Christian evangelism and its Creationist tenets reflect the relative *dysfunctionality* for the working and lower-middle classes of even the most `functional' of all modern economies: that of the USA. To do so, moreover, would certainly lead us into an extended discussion of the role of modern mass culture as a `convivial' alternative to the competitive values of today's political, financial, commercial, social and cultural elites.

Further extended analysis would be needed for the accumulated dysfunctionality of more than two dozen African nations, where self-determination since World War 2 has led to the imposition of corrupt and greedy despotisms locked in a cycle of murderous local wars.

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What binds all these relatively less and more functional polities together, over and above the obvious a-symmetries of their various entry-points into the Industrial revolution, was the traumatic unexpectedness of the Industrial revolution itself. Perhaps because Western civilisation was the progenitor of the Industrial Revolution and as yet is still its greatest beneficiary, but also because the Western model of history until less than 200 years ago seemed to

exclude the possibility of irreversible evolutionary change, the trauma was particularly devastating for what one may most simply call the West's *sense of direction.*

The proto-Industrial model of history was a strictly reversible model. Civilisations rose out of what the Classical world called barbarism (after the unintelligible ba-ba-ba of non-classical languages), flourished less or more greatly for a finite period, and in course of time fell back into barbarism again: a pattern manifestly confirmed by both Hellenic and Roman empires in their turn. Western renaissance civilisation saw itself as emerging afresh from barbarism[iv] again. The evolutionary expectations of the `new Romes' – the metropolitan capitals of the Western proto-Industrial nations and their surrounding satellite cities - are vividly expressed in the ubiquitous Palladianism of Western elite architecture from the Renaissance onwards, directly aligning the proto-Industrial West with the deeply-grooved tracks of its Classical predecessors. It was to be inferred that for all its imperial triumphs in its turn, Western civilisation was at any moment potentially not many steps away from a new collapse into a new barbarism. The *sense of direction* of the West's Classically-educated elites was geared to resisting that collapse at all costs. As such it was sorely tested by the French revolution – at least till Napoleon imposed his own imperial style, his own neo-Classicism (extended to include the art of the Egypt he himself had conquered) upon the improvised political structures the revolutionary rabble had set in place.

But if the final defeat of Napoleon at Waterloo seemed to confirm the essential reversibility of history in this latest example of the rise and fall of empire, the effects of Industrial revolution brought an entirely new dimension into play. The proto-Industrial had provided a speeded-up version of the Agrarian ecology which had prevailed in the rest of the world since the Neolithic (with its more aggressive and rational approach to ecological innovation we may equally think of the proto-Industrial as a `Super-Agrarian' ecology, relying as it did on an `advanced manual' mode of production.) It was therefore also intrinsically reversible, as was shown in the Dark Ages, when the achievements of Classical civilisation were largely turned back in the following five centuries.

The Industrial revolution introduced the new and radical concept of machine-power, which once adopted initiated an entirely new period of irreversible ecological change. As we now know machine-power for a while conferred an irresistible competitive advantage upon the Industrial `haves' over the proto-Industrial and pre-Industrial `have-nots'. At the same time by tearing down the Palladian stage-set of the West's own proto-Industrial civilisation, and imposing its

characteristic idiom of smoke-blackened cities, scurrying masses, universal clock-time and ever more rapid forms of transportation, the Industrial Revolution seemed to many to be taking humanity towards a new barbarism – (this adverse promise would be fully delivered in two world wars of industrialised slaughter in the course of the following century). If the West's ruling elites had not saved the world from a new cycle of barbarism, their collective project must in some significant way have failed – lost its sense of direction. Favourable conditions were thus set in place for the emergence of the opportunistic political adventurers of the Left and Right whose apparent ability to interpret human evolution and lead whole peoples towards plausible evolutionary utopias was to prove so beguiling in the 20th century.

In the little more than 200 years since the Industrial revolution took decisive form, the world has been decisively reshaped by a machine ecology which at first seemed to be about high-energy machines controlled by the human hand, but has since revealed itself as a mode of production in which high energy `dumb' machines are increasingly controlled by low-energy `smart' machines – the Industrialised world's ever growing but largely invisible population of automata. In that time cultural evolution *per se* – the evolution of our memes to more complex states which underwrites ecological change – has been:

a) `Discovered' anecdotally in the wake of Darwin's discovery of biological evolution – (nowadays Darwinian natural selection with its competitive *selection of the fittest* itself seems modelled on Capitalism rather than the other way round)…

b) Over-optimistically associated with universal material `progress' in the latter part of the 19th century[v] …

c) Disavowed by the industrialised world's disillusioned populations in the wake of two World Wars during the 20th century and the Cold War which followed with its promise of mutually assured destruction…

d) Completely marginalised in the political and environmental debates of the 21st century – when did the reader last see the word `evolution' in the public prints, other than in reference to a supposed new subspecies of pygmy hominids or in the context of fresh Creationist shenanigans[vi] ?…

Yet from the point of view of its impact on us all, cultural evolution is really the only game in town: in the last 200 years the emergent memes for a new ecology of machines have supplied the common matrix of experience for left and right alike, for green and browns, for religious and secular, for the first, second and third worlds, for the private as well as the public domain. From the viewpoint of cultural evolution, no man or woman is an island. All of us are interconnected through manifold webs of ecological inter-relationship with everyone else in the world. Even the surfer on the beach, leaving the world behind him to dive into the oblivion of the waves, has parked an SUV by the roadside which by its consumption of gasoline helps suck mankind towards Peak Oil, whose emissions add to global warming, whose construction depletes certain significant mineral and water resources, whose sophisticated features represent the bow-wave of current technological innovation, whose resourcing is by a buy-in to the mushrooming hardware and software markets of South East Asia, whose very cup-holders are tailored to accommodate industrialised beverages from around the world and which contains communication systems now giving instant electronic access to most regions of the world. In turn all these and many more inter-related aspects of our fast-changing global economy have points of mutual intersection in the minds of every individual alive – to the extent that it seems at least half-true to say that through its ever-multiplying web of linkages (many benign, but some malignant) our world more and more resembles a hologram in which all the information is implicated at every point in its surface – thence more or less lucidly in the consciousness of every living individual.

But if cultural evolution provides the context within which our species' relationship with its own planet is currently being transformed in ways which act through all our lives, how much the more perilous our position if we continue to deny it? – and how dangerously undefended our species must remain against irrational utopias projected onto the blank screen left by our denial of the one context we all have in common, namely that of continuing ecological transformation?

In the rest of this paper I shall explore how we can raise our defences against the malignant effects of irrational utopias whether violently or peaceably pursued: firstly by attempting to understand how the irrational meme is constructed (and thence how it can best be opposed and deconstructed on fronts where it most threatens life itself); secondly by suggesting a more rational and defensible representation of our current evolutionary context, different from the gradualist model of simple techno-economic `progress' which underpins the current popular understanding of evolution and which

has indeed been intuitively rejected by specialist and lay opinion alike.

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In the word `meme' Dawkins gave us a snappy and singular name for a rather complex entity – the quantum of cultural communication – which has at least two pairs of complementary `faces'. For a start the meme may be topologically *closed* or *open.*

- *Closed* memes are or seek to be impermeable to other memes in their vicinity: scientific formulae, legal codes, audited financial statements, inventories, journalistic reports, all aspire to the property of *invariance under transformation* – seek to keep the same meaning whatever is going on in the world around them.

- *Open* memes are to a greater or lesser degree permeable to other memes in their vicinity: rituals, games, public and private ceremonials, commercial ads and brands, star-systems and celebrities, political and religious institutions, market-places, academies, all invite external participation in their internal processes, and more or less subtly offer differing meanings across the course of time.

Equally the meme may also be semantically `smooth' or `sticky'[vii].

- *Smooth* memes are obedient to the Aristotelian principle of contradictions, namely that no entity may both have and not have the same property, which is the basis of all rational expression. Memetic `smoothness' therefore equates with an ideal inequality of positives and negatives. In information-theoretic terms the smooth meme is all `signal' and no `noise'[viii], making it a highly efficient vector for the transmission of rational meaning. Smooth memes achieve their optimal form in the mathematical expressions of natural science (The social sciences, much more dependent on the written word with all its inherent ambiguities, labour – not always convincingly - to produce mathematics with the same degree of relevance as the natural sciences, but aspire equally to strict rationality within their respective spheres.)

- *Sticky* memes, on the other hand, function primarily as *attractors*: binding rather than distributing meaning, exercising a form of cultural gravitation distinct from but sometimes confused with sexual attraction. Because

> attractors disclose their meaning through the formation of a subjective bond between the attractor and the attracted we may think of the meaning they produce as `relational' meaning. Information-theory is silent on the semantics of attraction[ix]. However in the light of the `thermo-dynamic' model of communication which is the basis Shannon's Mathematical Theory[x], an equation due to Prigogine for the self-stabilising nature of thermodynamic systems whose combined internal and external entropy-flows balance out to zero[xi], may reasonably be said to capture the main characteristics of a relational attractor: spontaneity, internal equilibrium, the simultaneity of opposites. Relational meaning is syncretic, where rational meaning is analytic. The sticky meme achieves its supreme expression in the arts, religion and the domain of the personal affections.

In a longer treatment it would be possible to discuss the *internal economy of the meme*, such that *memetic* closure may be seen to select firstly for smoothness and the production of rational meaning, while memetic *openness* (which is more receptive to external interference) selects preferentially for stickiness and relational meaning. However for our present purposes the *dual polarisation of the meme,* frustrating though it may be to philosophers trying to restrict the play of human meaning exclusively to the rational domain, seems fundamental to memetic replication: if memes lacked the property of `stickiness' they would not bind to brains and to other memes; if memes lacked the property of 'smoothness', they would not be able to `leap from brain to brain' or form new associations with other memes. Both relational and rational meaning are necessary for memetic replication to take place, and as in so many other conjugate relationships in nature and culture, *happiness* (possibly a better metaphor than *truth*) seems ultimately to equate to a sustainable albeit fuzzy relationship between the meme's two orthogonal `faces'.[xii]

We may express this relationship graphically by the following trigram

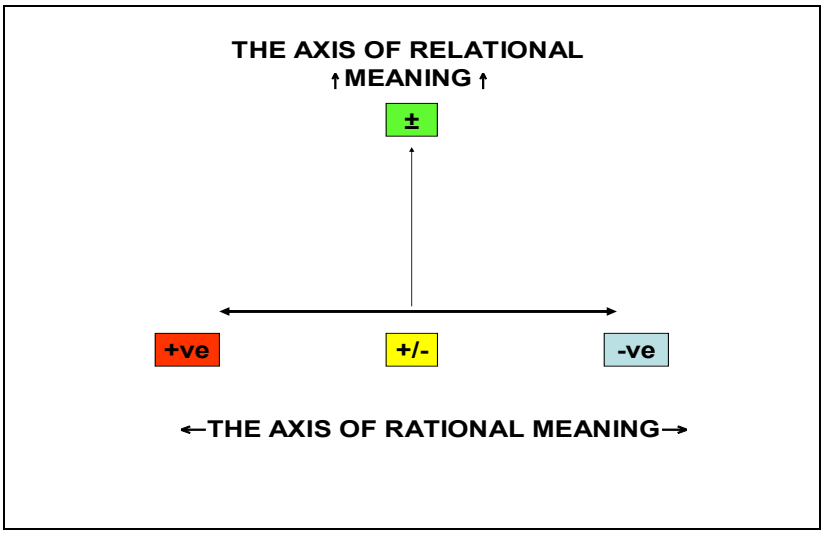


Fig. 1

A similar trigram first appeared (with one small modification[xiii]) some 45 years ago in an essay by Levi-Strauss, to express respective ties of mutuality, reciprocity, rights and obligations in kinship exchange: ties which encompass both rational calculation and relational bonding – thus both the smooth and the sticky face of the meme as defined above.

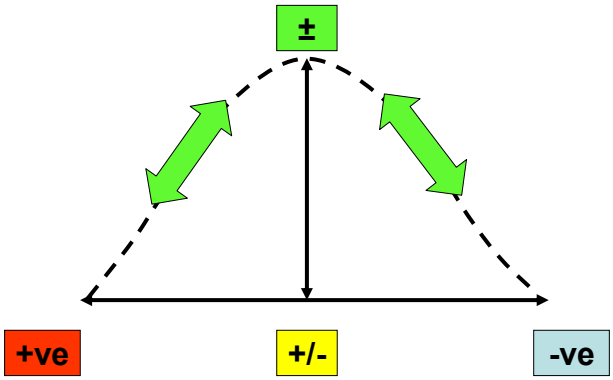
The horizontal axis with its opposite arrows of +ve and – ve sense here represents the mutual repulsion of Aristotle's two poles of rational meaning. The central +/- is the `either/or', the necessary condition of mutual contradiction for +ves and –ves, which is the logical firewall conserving rational integrity. (I shall presently argue that an assault on the +/- firewall by denial of the principal of contradiction is the first basis of all irrational discourse.)

The vertical axis with its one-way up-arrow towards the = sign for the Prigogine attractor represents the tendency of *relational* meaning to pull away from the rational and to offer an alternative set of semantic conditions in a separately-positioned communication space, where the rational contradiction existing between +ves and –ves can temporarily be balanced out and brought to zero, thus mediating transitions between opposing states of reality. We can see this deliberate distancing of the relational from the rational at work in so-called primitive art. The found environments of Hunter-Gatherer *cave* art, the constructed environments of Agrarian *temple* art were each in their turn distanced from the routines of everyday economic and biological life, either by a degree of physical remoteness below or above ground (sacred caves, groves, mountain-tops), or by the ceremonial decking-out for ritual purposes of a communal space such as a village centre[xiv], or later by the awesome magnificence and sheer capital cost of great iconic structures such as Stonehenge, Karnak, Teotihuacan, Angkor Wat;

the startling internal volume of the major Roman basilicas; the immense multi-columned mosques of early Islam; the soaring splendour of the early Mediaeval abbeys and cathedrals. This systematic distancing of the relational attractor positions meaning in its qualitative form at a necessary remove from, but still in sensory contact with, the quantitative world which rationality measures.[xv]

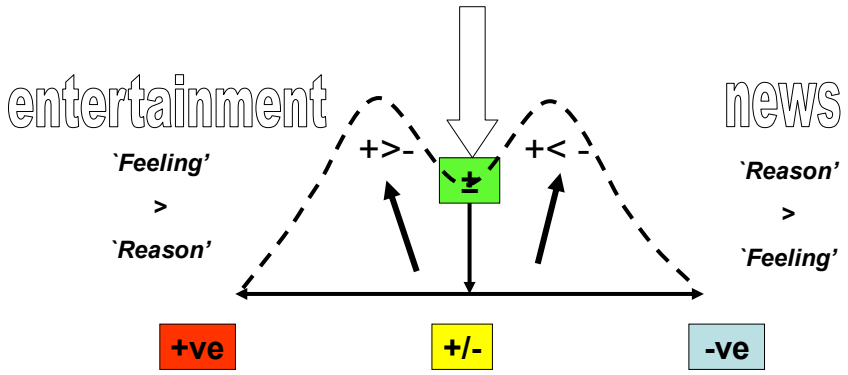
In turn the sheer monumentality and durability of cave and temple art, its overt function as a `sink' for free surplus value within the economy, and its use by the entire community to respond to changing events in a fundamentally chaotic biosphere, all speak of long-term ecological stability and the primacy of the *economics of scarcity*. Universal economic scarcity – the result of mutual competition for economic resources rather than their actual non-availability – deprives polities of the surplus wealth to adapt to threats in their external world by changing their own relationship with nature[xvi]. Instead it puts a premium on the capacity for fast *passive* adaptation within the human community: the rapid switching between opposites states of motivation – peace/war, life/death, hope/fear, feast/famine etc - which relational meaning facilitates. Whence, in a few words, the central role of ritualistic magic in primitive worlds. By managing their various `gods' embedded in a range of individuated Prigogine attractors, primitive peoples self-managed their own collective motivation: by a process of *negative capability*[xvii] achieving the two-way relational traffic, the collective cultural agility, needed for survival in a mutable and seldom entirely predictable world (Fig 2).

RELATIONAL TRAFFIC-FLOWS



The evidence of ancient art suggests that the ecologically rather stable cultures of the past selected for relational meaning in its `strong' form – as a dominant force within the polity to which when necessary reason must defer. I have elsewhere[xviii] called these `Type B' cultures, rich in internal coherence but low in ecological agility, pond-like in their sluggish fluctuations between peaks and troughs of prosperity. The advanced industrial civilizations of the 21st century, by contrast, are Type A cultures: high in ecological agility, low in internal coherence, stream-like in their linear, expansive pattern of evolution towards ever greater growth. Type A cultures, with their continuous techno-economic innovation, ceaselessly re-inventing the productive relationship between mankind and the planet itself, weaken the very foundations of relational meaning, reducing the ancient separation from the rational on which the authority of the relational rested in the ancient world. The result is the division of meaning we find in modern mass culture, with its characteristic `twin peaks' of entertainment-which-is-news and news-which-is-entertainment, and a depressed status for relational meaning in its `pure' (eg religious) form.

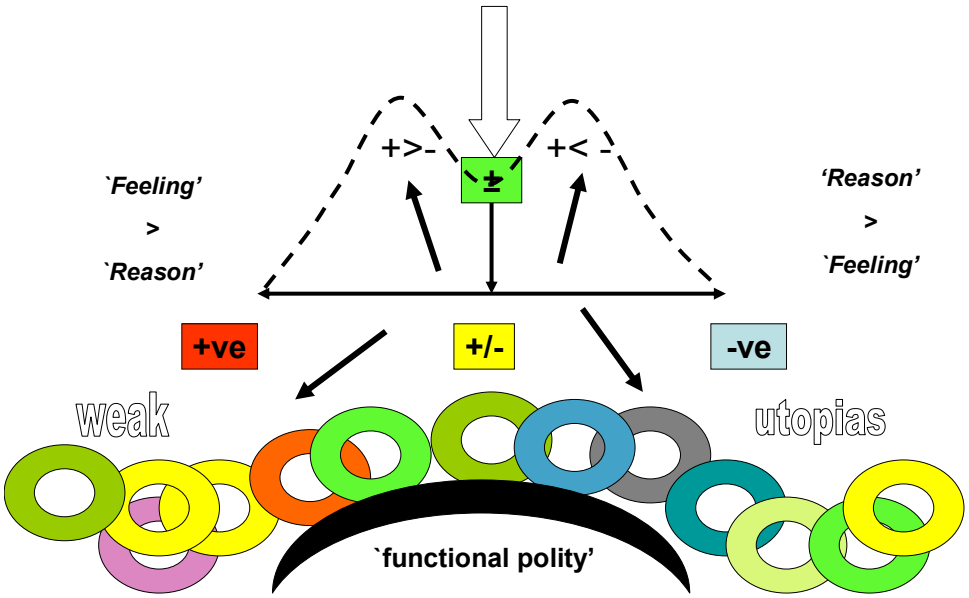
WEAK IRRATIONALITY



This secularized pattern of culture with its divergence of feeling and reason and its lack of clear differentiation between relational and rational meaning may be called `weakly irrational': *ir*rational in the sense that what is communicated is invariably result of some a-symmetric trade-off between rational and relational priorities – a phenomenon most visible in the ubiquitous practice of `branding' – the mapping of relational values onto rational utilities such as foods, cleaning materials, cars, politicians and so on – such that both rational and relational meaning are sold short in the final account.

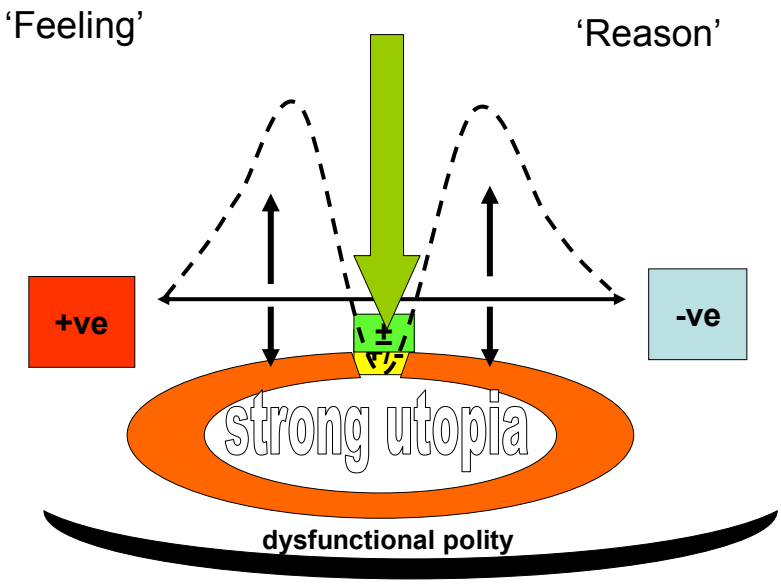
Weak irrationality pays its way in the modern world not so much for being meaningful as for being widely accessible: providing the only practical route to a mass audience. Indeed it may be argued that weak irrationality is the defining cultural characteristic of what I identified earlier as a *functional polity* in our imperfect contemporary world. Weak irrationality permits the projection of an unlimited number of weak personal utopias, which are scattered and largely dispersed by the convex `basin of attraction' associated with normal political functionality.

WEAK IRRATIONALITY

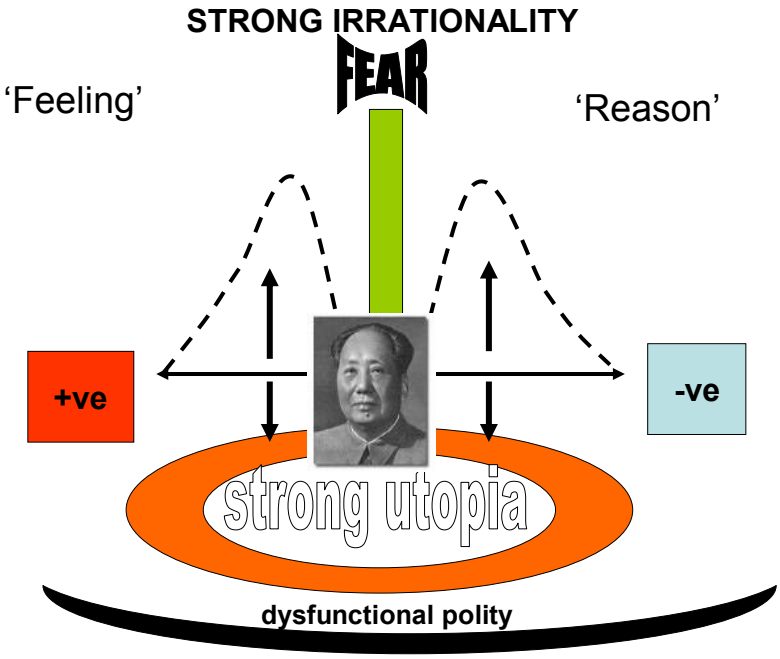


By further compressing the same basic model we arrive at the semantic configuration for *strong irrationality* – truly the dark side of the meme. Strong irrationality, I suggest in Fig 4 below, occurs when the distance between the relational attractor and the rational axis is reduced to zero and the relational attractor then negates the rational `+/- firewall' which normally both links positive and negatives and at the same time maintains the difference between them. With positives and negatives thus decoupled and at the same time free to be exchanged for each other, the condition of moral anarchy fundamental to a dysfunctional polity is thus secured: that complete division of reason from emotion characteristic of totalitarian states, which opens the way to the systematic violations of individual and collective liberty, leading to mass murder for political ends, with which students of Leninism, Fascism, Stalinism, Nazism, Maoism, Kim Il Sung-ism and Castro-ism will be thoroughly familiar.

STRONG IRRATIONALITY



Strong Utopias are at their most persuasive when commitment to them is enforced by fear using the apparatus of a police state, and when the relational attractor is locked into position over the `+/-` firewall by a quasi-religious leader supported by quasi-religious ritual: whence the combination of mass terror, the personality cult of the leader, the staging of mass demonstrations and the proclamation of utopian ideals common to all totalitarian regimes in the 20th century, and still present in the Wahhabism of Al-Quaida in the 21st.



A graphic representation of `the irrational' can only take us so far towards understanding the extraordinary power of irrational utopias to bind minds in dysfunctional polities – and in functional polities too – let us not forget the blind or credulous eyes turned in the West at different times to the Stalinist police state, to Nazi re-armament and the persecution of the Jews and Slavs, to Mao's Cultural Revolution. But it will perhaps have served a purpose if it can highlight as a central motif of irrational communication: *the abuse of relational meaning to destroy the integrity of rational meaning.* In this context we can see that Christian Creationism for all its lower public profile than the state religions of Leninism, Hitlerism, Mao-ism etc, and for all the relative modesty of its police-state tactics (where community appointments are open to Creationist influence it is discreetly active), is fully up to speed with its competitors in its attack on reason, and indeed in its new trope of `intelligent design' may have created an important new genre of persuasive sophistry for other evangelists of strong irrationality to emulate.

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If rationality itself is the main target of the strongly irrational, and if the strongly irrational by its assault on reason now seems able to pose credible threats to the existence of the human species as a whole, there is clearly a moral imperative to consider how reason may fight back. There would seem to be two levels at which the struggle for rationality may be conducted, of which I shall argue that the first, combating strong irrationality on its own grounds,

may proved less productive in the longer run, than recognising the wider evolutionary context in which both strongly and weakly irrational cultures are being generated within a broadly Type-A world in dynamic ecological transition. Or in short, in order to rescue the meme itself from potential annihilation through the extinction of the human species, we need to envisage the meme in a global evolutionary context, within which a-symmetries in the flow of benefits from Industrialisation can create sub-contexts more or less favourable to the integrity of the meme itself – with the less favoured sub-contexts, warping or deforming the meme more strongly towards its irrational `dark side'

So while it is important to engage with Wahhabism on the basis that it would ghettoise Islam in a memetically barren compound without spiritual freedom, imaginative speculation or inventive risk…it is arguably just as, or even more important to be debating ways in which global a-symmetries in the functionality of less favoured polities can be eased and their more extreme stresses relieved – and thence how Islam can be assimilated into full membership of the club of advanced Industrial economies. While it is important to engage with Christian Creationists on the crude literalism of their approach to Biblical revelation and on the fugue from moral responsibility for the world created by their own habitual patterns of production and consumption which this literalism implies…it is arguably just as, or even more important to recognise the deep damage that Type A evolution does to traditional social structures, to understand the sense of alienation produced in the social classes economically most dependent on those structures by their collapse[xix], and seek the conditions for a more layered society to emerge, in which *happiness* – I use the term again – can be measured against a more complex set of values than the present brute 'percentage of GDP' – the only aspiration sanctified by current ideals of universal opportunity.

But in re-contextualising the meme for the struggle against the extinction of the human species, surely our greatest problem is that we currently have no common context for understanding human existence on earth – that is to say, no shared concept of the process of sapient evolution in which every one of us is implicated. I have elsewhere[xx] suggested that sapient humanity may be understood as nature's first two-speed species, simultaneously bound by slow biological evolution and liberated by fast ecological evolution – whence the allusion earlier in this paper to the meme as fuzzily holding the ring between biological and the ecological imperatives. In this model, the economics of the scarcity to super-scarcity cycle associated with ecological change produce a punctuated pattern of evolution, in which every period of stream-

like Type A culture associated with irreversible ecological change paves the way for the eventual re-emergence of a pond-like Type B culture associated with the globalisation and thence stabilisation of the new ecological paradigm. This model, I believe, offers a context in which the meme of Capitalism itself may be understood as gradually yielding to the changing market forces of an increasingly super-scarce global economy – an outcome which might yet, given a fair wind, produce a `softer landing' for the post-Industrial world than some pessimists expect. Against that mildly hopeful expectation, however, we must set the emergence in the 21st century of ominous nationalist forces in China and Russia: two vast populations where an older Marxist-Leninist legacy is currently being traded for new forms of authoritarian capitalism; two vast polities now seeking to produce both guns and butter; assuaging their restless populations with ever more material goods; while overtly tooling up their military for potential armed struggle further down the line for the planet's finite resources of land, water, energy and clean air.

One way of bringing the concept of sapient evolution back into the public domain, would be to re-integrate it with what we already know of cosmic and biological evolution and our growing awareness of the unique role of human consciousness in the construction of space and time. In an ISST context this could be elegantly done by building upon JT Frazer's `nested hierarchy of qualitatively distinct temporalities', with its ascending order: a-temporal, proto-temporal, eo-temporal, bio-temporal, noo-temporal and socio-temporal. If we take the socio-temporal as the `penthouse suite' of this grand edifice, then incorporating a model of sapient evolution into it would be equivalent to extending it upwards by a couple more `floors': turning the penthouse into something more like a Manhattan triplex, with successive levels $S_1$ $S_2$ $S_3$ representing respectively the Hunter-Gatherer, Agrarian and Industrial phases of human society's ecological development, each one `higher' than the last in terms of a stepwise increase in its capacity to sustain a significantly larger human population, each one `better' in certain respects and `worse' in others, with the jury still out on the ultimate sustainability of the S_3 Industrial level. This would potentially integrate sapient evolution into the existing map of human knowledge and at the same time open it to more detailed debate about the evolution of temporality itself within evolution, which has led, in Frazer's own resonant terminology, to our present `time-compact world' faced with its uniquely alarming array of potential Malthusian outcomes.

For sure, if we are going to defend ourselves and our descendants against the mortal dangers now represented by the dark side of the

meme, we need to position the meme where – as the quantum of culture it self-evidently needs to be – in the context of cultural evolution. And to do that effectively we must now, by one means or another, position cultural evolution in the broader context of contemporary Western thought about the evolution of the physical and biological worlds. That in turn would seem to open the way to the great epistemological challenge of the 20th century: the development of inter-disciplinary meta-languages with sufficiently generous criteria of *reciprocal literacy* (Fraser's phrase again) to underwrite rational debate about human survival.

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[i] Dawkins/Selfish Gene/OUP/1976….p 206
[ii] Cite…
[iii] Cite…
[iv] qv Vasari's Lives
[v] reference Spenser
[vi] ref. newly-opened museum of `intelligent design' …Baltimore?
[vii] Ref my paper for ISST in Time and ….
[viii] Shannon's 9th theorem states that with correct matching of the quantity of signal to the capacity of the transmission channel, it is possible to transmit the whole of the signal less an amount ε of symbols-per-second (representing `noise' or lost information). He adds that by correct choice of coding `ε can be arbitrarily small'. It is arguable that Shannon's `ε` is the cultural equivalent of Planck's constant for the physical world. (p59) – an absolute limit to our capacity for communication.
[ix] Shannon only interested in engineering aspects of comms, though Warren Weaver's introduction clearly suggests the Theory's potential for wider cultural application.
[x] `information' is equated with the *negative* of the *entropy* of the probabilities of the message: $H = - p \log p$, where classical thermo-dynamics associates entropy (as a measure of disorder produced in a gas in the process of doing work) with *positive* values of $p \log p$
[xi] First enunciated in *Themodynamics of Irreversible Systems [ ],* later brought to greater prominence in *Order Out of Chaos [Prigogine and Stengers…etc]*
[xii] The functional simultaneity of the two faces of the meme may be used to account for the curious way in which societies and cultures, even when submitted to the most extreme and fissiparous forces, tend obstinately somehow to `hang together': the centrifugal pressures of rational meaning (the harsh realities of war, famine, political repression etc) – invisibly offset by the centripetal ties of relational meaning (ties of personal, kinship, tribal and national affiliation). In this context relational meaning may be seen as the `dark matter' of sapient culture, invisible to the rational mind, but massive in the social account.
[xiii] Refce: first appearance in L-Strauss *Structural Anthropology* […] p 49 with a slightly different signage than here – L/S used a rationally permeable ± (where I use the impermeable +/-)
[xiv] a custom still preserved in the *ferias* and *fiestas* of Spanish and Latin-American cultures
[xv] `Distantiation' is relative: to this day belief-systems which are too `way out' – eg Blavatskyites, Dravidians – remain essentially *minoritaire*
[xvi] refce Marshall Sahlins on *the domestic mode of production*
[xvii] credit this to Keats: *Letters*

[xviii] Qi and complexity ref
[xix] Telegraph article ref
[xx] cite