21st Century Society

Vol. 3, No. 2, 201-211, June 2008

AFTER CAPITALISM?[i]

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Abstract

Events seen from a distance can reveal information not visible when the same events are seen in close-up. This is certainly true of art history. Western art history is traditionally written from a close-up perspective, which favours the closed, compact, complex images of Western Old Master painting and sculpture, physically extended in `timeless' 3-D aesthetic space. From the broad perspective of 30,000 years of art-history, on the other hand, Western-style space-based art with its closed aesthetic images is a relatively minor player on the scene. The leading cultural role in those 30,000 years has been taken by an art of open, environmentally-scaled images, physically extended in 4-D ritualistic space-time: the cave art of the Hunters-Gatherers, the temple art of the Agrarians, early Christian church and cathedral art even – a genre of communication still throwing a long shadow over modern mass media. Much the same may be said about economics. Seen in close-up – framed by the all-conquering Western Capitalism of the past 500 years – human economic behaviour is a Darwinian struggle for survival, driven by the constant expectation of plentiful resources. In a longer view of human economic history, on the other hand, it may be argued that the `economics of plenty' play a relatively transient role – uniquely associated with the emergence of new forms of human ecology – and that the principal driver throughout most of human history has been the more sustainable `economics of scarcity', principally associated with the two long periods of ecological settlement, Hunting-Gathering and Agrarianism, already mentioned. The following paper merges these two long views – of art and of economics respectively – to suggest that scarcity rather than plenty may yet have the last word in our newly globalised machine-ecology and that the arts may yet turn out much more central to human survival than they currently seem.

Keywords: *Art, Economics, Plenty, Scarcity,Ecology,Punctuationism*

Introduction

Is Capitalism a self-perpetuating belief-system driven by its own internal, opportunistic logic of greed? Or is it an essentially rational response to the logic of external economic events? Socialists have consistently represented Capitalism as an ideology animated by greed, lacking either compassion or wisdom, and now in its blind pursuit of gain driving an overburdened planet towards Malthusian catastrophe[ii]. This paper offers an alternative view of Capitalism as a necessary response to the temporary economic inequality which arose between the West and the rest of the world during the convulsive transition from an Agrarian to an Industrial ecology, and which is now in its turn being over-written by the equalising effects of

globalisation. It suggests that as globalisation proceeds the Western heritage of Industrial `super-plenty' will progressively be replaced by a post-Industrial `super-scarcity', and thence Capitalism red in tooth and claw by an economically more constrained but potentially more sustainable post-Capitalism, which may yet afford our species the possibility of a survivable `soft landing'. If so, however, survival is likely to be at the price of cultural changes which many might consider unthinkable: amongst them the replacement of science as a dominant factor in the human economy by symbolic practices more nearly related to art, albeit an art implicating ritualistic values, far removed from the aesthetic values vested in `art' as we mainly still know it today.

The Long View on the Evolution of Art

Art itself, of course, is a vast subject. Western civilisation to-day has a very one-sided view of its potentials, valuing it principally as a recreational resource or a store of financial value, and relating to it as an object. But we know from the art of the ancient world – the *cave art* of the Hunters-Gatherers, the *temple ar*t of the Agrarians[iii] - that earlier societies took a very different view of its potentials, seeing it principally as an adaptive resource, a way of manipulating fate in their favour. Modern civilisation tends to be dismissive of the magical claims of ancient art. But we would be unwise to take those claims too literally. The ancient genres of art, in which large all-enveloping *art-environments* (the caves, temples etc) were used as channels to generate communal rituals, survived successfully across some thirty millennia, and their more convivial characteristics are still emulated in the mass media today. There is nothing to say that the art-environment may not once again replace the art-object as the main channel for artistic communication in some future world. Indeed I shall contend that the replacement of the art-object by the art-environment is already under way in the visual arts. The other arts may currently seem to be lagging behind, being more burdened by their own traditional infrastructure. This situation is likely to change, however, with the further growth of electronic connectivity.

Visual art Western-style has always travelled light. The production of a painting or sculpture does not require the elaborate cast of intermediaries necessary for the production of a play, a symphony, a ballet or a novel. Perhaps for this reason visual art has proved super-sensitive to the dynamics of cultural evolution in the Western world, nowhere more so than in its 20th century engagement with *reductionism*: the signature ideology of the Industrial age, the belief that the most valuable truths reside in the most elementary entities. The Modernist pursuit of elementary aesthetic entities, explored first in the radically simplified images of Abstract art and latterly in the ephemeral imagery of Concept Art, reveals aesthetic Modernism itself as an integral element in the Industrialisation of the planet, a legitimate `tracer medium' for the collapse of shared meaning and the kaleidoscopic multiplication of individual perspectives in a world in open, stream-like evolutionary growth.

Visual art may show an unexpected sensitivity to the evolution of the human ecology. But that does nothing to solve the main conceptual problem associated with the arts in general:

namely that art simply does not fit current Western concepts of communication. To communicate, in Western terms, is to distribute information from a Sender to a Receiver. Information, expressed mathematically by Claude Shannon (Shannon and Weaver: 1969/1949) as the negative of entropy, is the desirable `signal' in any act of communication. The work of communication itself, however, generates a semantic turbulence, which Shannon called `noise', and which like the loss of energy in a heat-engine performing work, takes positive values of entropy. The aim of the communicator is then to maximise `signal' by minimising `noise' in the chosen channel - a semantic inequality fundamental to rational expression.

Art-images, of course, may themselves act as distributors of rational information. Indeed from the early Renaissance to the mid-19th century Western art was explicitly pictorial: the art-object acting as a `noiseless channel' for life-like images of divinities, heroes, beauties, rulers, battles, domestic interiors and – on occasion – plates of fish or sides of beef. But works of art have generally been valued critically in a quite different way: for their qualities of *implicate* meaning, their effectiveness as *attractors* - sources of a *sensuous gravitation* in certain ways homologous to, though by no means identical with, sexual attraction.[iv] Furthermore the sensuous attractor in visual art, far from discriminating unequally between negatives and positives, seems systematically to bring positives and negatives into the same syncretistic unity: life/death, joy/sorrow, war/peace, male/female, youth/age, endogenous/exogenous, unmarried/married, plenty/poverty etc. are each of them syncretisms frequently to be found in works of art. Shannon's *Mathematical Theory,* exclusively dedicated to the engineering aspects of communication, has nothing directly to say about syncretic meaning.

It was in another part of the thermodynamic woods altogether that a general equation for the attractor first made its appearance, in the form of a now iconic equation by Ilya Prigogine (Prigogine 1955: 83-84), for the combined entropy-flows for a system dS whose internal and external entropy-flows across time are d_iS and d_eS respectively, such that:-

$$dS = d_eS + d_iS.$$

Under the Second Principle of Thermodynamics[v] the *closed* processes d_iS must either be positive or at rest, thence:

$$d_iS \geq 0$$

But the open processes d_eS , comprising the system's exchanges of energy and information with the exterior, may be either positive or negative. If they are negative in sign

$$d_eS < 0$$

but equal in numerical amount

$$d_eS = - d_iS$$

- then the entropy-flows of the system as a whole will balance out to zero

$$dS = d_eS + d_iS \rightarrow 0$$

In these circumstances, Prigogine states, the system will spontaneously return to equilibrium for small fluctuations in its exterior – or in short, the equilibrium state is an attractor for the system itself.

Here then we have a mathematical formulation embracing all the canonical aspects traditionally associated with a successful work of art: syncretism, opposition, equality, equilibrium, spontaneity, attraction. In this way Shannon's information-theory, thus enriched by Prigogine, can furnish us with a schema for syncretic meaning *within the terms of rationality itself*, albeit arguably orthogonal to it. This positioning equates well with common opinion that the arts, though elusive to reason, are integral with rational life. It also enables us to recognize that the play of chaotic and representational data in the imagery of so-called primitive art, far from being a sign of cultural backwardness, indicates a direct and lively relationship with syncretic meaning - one which was later arguably lost in the more indirect idiom of Western-style object-based art, where the attractor is embedded in a pictorial representation - `hidden in the eye of the beholder', as one may legitimately say.

When the time comes to look back on the history of the West as a closed account, attention will surely turn to the extraordinary prevalence in Western culture of what may best be termed *Western-centric fallacie*s: belief-systems in which the superiority of Western civilisation over its predecessors has automatically been assumed. One such was the conventional Western belief that the only truly authentic forms of visual art are those preoccupied with 3 dimensions of visual space to the exclusion of the `noisy' 4th dimension of time. This gave a `story of art'[vi] which began with the entirely aleatory images of the earliest `cave-man', ascending through progressive levels of figural representation still partially *dis*-figured by `noise' and therefore identifiably `primitive', culminating finally in the ideally noiseless (=`timeless') images of classical Greek and Roman art, these in turn being successfully emulated from the late Middle ages onwards by the Western Old Masters from Mantegna and Michelangelo to Ingres and Courbet.. This was of course a view in direct conflict with the facts of art- history as seen in the longer view, with its 30 millennia of monumental art-environments used to channel ritualistic behaviour: a tradition which included not only caves, sacred groves, henges, ziggurats, temples, basilicas, mosques etc., but also the churches, abbeys and cathedrals of Christianity itself. In effect the Western-centric view of art history denied ancient art full membership of `civilisation', while in the process endorsing a genre of culture which was perceptually *time-blind*..

It was therefore seen as more than a simple `shock of the new' when in the course of 19th century the perceptual pendulum in visual art began to swing back from the noiseless object-in-space to the inherent noisiness of the event-in-time. With the benefit of a hundred and fifty years of hindsight we can today see that the `modernisation' of Western art has involved a cultural phase-transition in slow evolutionary time which is still far from complete, but is by now sufficiently advanced in its development for a clear pattern to emerge. Like a lap-dissolve in cinema, where old footage merges with and is subsequently replaced by new footage, the Modern period began with the progressive deconstruction of the old object-based

art of painting and sculpture and ended with the emergence of a new event-based art of environmentally-scaled installations and contextual pieces – the `art-environments' of a post-Modern age.

By the end of the 20th century it had become clear that the old and the new genres of art were mutually complementary, rather than in conflict – objects and events in visual art being related to each other such that each is a source of `noise' in the other's `signal'.

Table 1. Object-based vs. event-based art

Old genre		**New genre**
`Space' minus `Time'		`Space' plus `Time'
Art-object		Art-event
Closed attractor		Open attractor
Compact scale		Environmental scale
Impermeable to external events		Permeable to external events
Contemplative/Judgmental		Participatory/Immersive
Eye outside looking in		Eye inside looking out
Painting/Sculpture		Installation/Contextual
Single-sensory		Multi-sensory
Aesthetic value		Proto-ritualistic value

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The apparent wild card in this account is the term `proto-ritualistic value'. It would be fair to say that much less is as yet understood about the value delivered by installation and contextual art than about the aesthetic value associated with painting and sculpture. But then that should be expected of a prototype genre of art very much at the beginning of its learning curve, advancing *à tâtons*, groping its way into the present against the traditional grain of Western culture, unsupported as yet by either a pedagogy or a sense of common purpose, yet propelled by a compelling internal momentum.

There are of course two possible views of art-history. It can be used – and has mainly been used – to set the art of the past in its place, and to open pathways to it from the different perspectives of a later world It may on the other hand be used to identify new areas of creative potential as yet unexplored. Emergent as it may be, the new event-based art opens up an entirely new perspective on the potentialities of art, in which `space' and `time' offer equally legitimate, albeit mutually complementary, perceptual pathways for the production of visual art. Furthermore from a longer-term perspective, `space'-based art, far from being the

predominant pathway as represented in the Western-centric `story, is dwarfed in the historical record by `time'-based ritualistic art: some 20,000 years of Hunter-Gatherer cave art, being succeeded by some 10,000 years of Agrarian temple art, with only a relatively brief period of transition between the *found* art-environments of the Paleolithic and the *constructed* art-environments of the Neolithic – the mysterious Mesolithic or middle stone age, when cave art had collapsed, temple art had not yet emerged and such art as has been identified to the period seems relatively more speculative in character and at least as much oriented to the art-object as to the art-event [vii]

On this score, the Classical/Western tradition in visual art clearly defines a *second* transitional period and a second transitional genre of art, more overtly based on the art-object, more intensely speculative: emerging out of the old ritualistic genre of Agrarian temple art; enjoying its first cycle of glory in the Classical age; collapsing out of sight with the collapse of Classical culture; re-emerging to a second age of glory in the art of the Western Old Masters, and now finally dissolving into a new period (and a new genre) of event-based art, whose ultimate ritualistic fruition must lie far enough in the future not to try to second guess to-day, but which already represents a broad new avenue of creative potential.

In short, where the Western-centric, short-view `story' of art put all its emphasis on the art-object as a *closed* attractor impermeable to the event-in-time, the long-view art-history is of a distinctively fluctuating pattern, in which longer periods of art based on *open* art-environments permeable to external events, are intercalated with briefer periods when the *closed* attractor is pre-eminent. Today, though paintings and sculptures continue to be produced within the Modernist tradition, their scope is increasingly self-referential – in effect we are seeing the growth of a Modernist academy – while post-Modern Installation and Contextual art, by their much wider range of contemporary reference, now clearly hold the future in their arms.

The Long View on Evolutionary Economics

The long-view history of art in turn directly undermines another cherished Western-centric fallacy: the belief in the uniform nature of sapient evolution, with its clear implication that earlier forms were weaker in terms of the open/innovative pattern of ecological development which predominates in the advanced industrial economies of today. From the long-view perspective the unchanging forms of cave art and temple art, sustained in their monumentality across many millennia at a time, suggest long periods of *closed/conservative* evolution, during which the human ecology was relatively stable, growing by the accretion of self-similarity rather by the production of difference. That pattern is only significantly broken twice during the sapient period: by the two periods of transitional, object-based art already noted, the Mesolithic and the Classical/Western, both of which were also periods of ecological transition: the former from Hunting-Gathering to Agrarianism, the latter from Agrarianism to (as it increasingly now seems) an ecology of Automata. In summary, the

long-view history of art, viewed as a `tracer medium' for sapient evolution, suggests a *punctuated* rather than a linear pattern of evolutionary development – one in which, to borrow the terminology from its original authors (Eldridge and Gould: 1972), the `sudden emergence' of a new ecology is followed by a relatively much longer ecological `steady state'.

Putting it another way: the new art-history is telling us that the trajectory of mankind's ecological development fluctuates between alternating phases of open/innovative and closed/conservative evolution. If so, we have some fresh thinking to do, because Western economic expectations are currently focussed entirely on a future of continuous open/innovative growth – the future as prescribed by Capitalism the ideology. The punctuationist model of ecological evolution, on the other hand, suggests that every period of open/innovative growth will end in a new period of closed/conservative growth, just as every period of object-based art paves the way to a new period of event-based art. Is there a corresponding `long-view' economic theory which would enable us to account for these long-term fluctuations in human evolutionary development?

A starting point may be found in the notion of *ecological homogeneity/inhomogeneity*. Let us consider first the Western experience of the past 500+ years. Modern Western-style civilisation has been formed in the course of a 500-year period of ecological inhomogeneity, associated with the emergence, within the Western world only, of a dynamic form of ecology based on the ever-increasing use of machines (at first powered by natural energy sources, later by other machines), a mode of production which proved significantly more productive than the manually-based Agrarian ecologies by which all other human populations at that time got their living. This ecological inhomogeneity was greatly to the economic and political advantage of the Western `haves' and equally to the disadvantage of the non-Western `have-nots'. The former became the economic predators, the latter their prey. From a Western perspective the non-Western world now became, for the time being, a limitless source of economic resource, first for colonial and later for imperial exploitation. This great stroke of fortune brought wealth and power into the West, but it also imposed its own highly competitive pattern of economic behaviour. A world of plentiful economic resources offers the `haves' of that world a favourable environment for the profitable pursuit of risk, but at the same it brings about a state of affairs in which the well-being of everyone, both the haves and the have-nots (albeit unequally), is *at risk*: one in which economic survival equates directly with the possession of superior `fitness' in economic terms – whence the Darwinian struggle we have learned to associate with Capitalism, which is the rational form of economic life associated with the `economics of plenty'[viii].

But if we now wind our attention back from the past 500 years of Western domination and global ecological inhomogeneity to an earlier epoch – a pre-Industrial age of 1000 years ago or earlier, when a manual Agrarian ecology was still globally predominant – we find an entirely different pattern of economic behaviour worldwide, based on an ancient *status quo* of ecological *homogeneity*. Agrarianism, the ecology of many hand-tools for one use (as opposed to the `many uses for one hand-tool' of the earlier Hunters-Gatherers), had emerged into the world at the time of the last global warming some 10,000 years B.P.. It had

established its characteristic disciplines of husbandry, agronomy, irrigation, construction, transportation, the manufacture of textiles, ceramic and metal goods, and crowned its civilising achievements with the invention of writing. In the following 5000 years this formidable new system of productive relationships between the human species and the biosphere propagated throughout the inhabited world, either replacing Hunting-Gathering altogether or driving it into the deserts, jungles and ice-caps where the older, intrinsically more parsimonious way of life still offered an effective means of survival. Agrarianism in its turn, it must be assumed, would itself have been the product of a still earlier period of global ecological *inhomogeneity* when Agrarianism co-existed with Hunting-Gathering, and on this basis the Agrarian `haves' must experienced their own `economics of plenty' at the expense of the Agrarian `not-haves'. But that unequal episode in humanity's ecological evolution seems to have been so smeared out across 5000 years of evolutionary space-time, so `thinned down' in human memory, that only myth now captures it[ix]. What the subsequent worldwide success of Agrarianism clearly tells us is that the *globalisation* of a new ecology, by bringing all economic competitors onto the same higher ecological level and ushering in a universal competition for the same finite raft of planetary resources, ultimately eliminates the one-sided `plenty' of the temporary winners, and replaces it with a general condition of economic *scarcity*[x] shared by all, former haves and have-nots alike.

The `economics of scarcity' have their own distinctive dynamic. Under conditions of universal economic scarcity, over-production and under-production are equally unsafe strategies: the former potentially depleting the future, the latter the present. Economic survival, in these circumstances, equates to a *sustainable mean of production* from day to-day – or in short, to the `equilibrium model' which sits so strangely in classical economics as a way of understanding the far-from-equilibrium dynamics of an Industrialising world attuned to the expectation of plenty, but which is entirely appropriate to a world constrained by the economics of scarcity. Scarcity strips out the potential for continuous profitability which is central to a Capitalist system, replacing financial instruments seeking exposure to profitable risk such as equities, bonds and loans, with instruments designed to shed risk by `hedging': smoothing out variations in supply and demand by deferred contracts of reciprocal obligation – the role played in modern markets by derivatives[xi], and in more ancient economic environments by systems of reciprocal exchange, based on `the spirit of the gift'. An extensive anthropological literature exists on the economics of primitive societies constrained by scarcity, but it tends to remain in a scholarly compartment of its own, unconnected with modern economic thinking[xii]. As will be seen shortly, this may soon need to change.

The economics of scarcity, in their turn, enable us to explain the feature which so sharply differentiates the worlds of the Hunter-Gatherer and the Agrarians from our own: namely the central role played in those economies by syncretic (rather than analytic) meaning, as manifested in their characteristically capital-intensive ritualistic art-environments, both those found and those constructed. Scarcity, by stripping out surplus value, also eliminates the adaptive advantage available under the economics of plenty: the capacity for ecological innovation to get out of trouble. However a ritualistic art can replace a community's missing ecological agility with a compensating *motivational* agility, provided by rites of passage and

facilitating fast and effective communal adaptation to the adaptive challenges of life in the biosphere. In this context we must see the Prigogine attractor embodied in the rituals performed within ancient art-environments, as a giant switching mechanism, capable of moving entire communities swiftly between opposite motivational phase-states – from an X to an antithetical not-X– by-passing the rational obstruction posed by the mutual contradiction of X and not-X via a syncretic attractor (the ritual itself) within which the X and the not-X cancel each other out, and the lock placed on rational action by contradiction may thereby be circumvented. As Fig 1 indicates, the process is essentially reversible: the Prigogine attractor could be equally efficacious as a motivational switch from Peace to War, or from War to Peace.

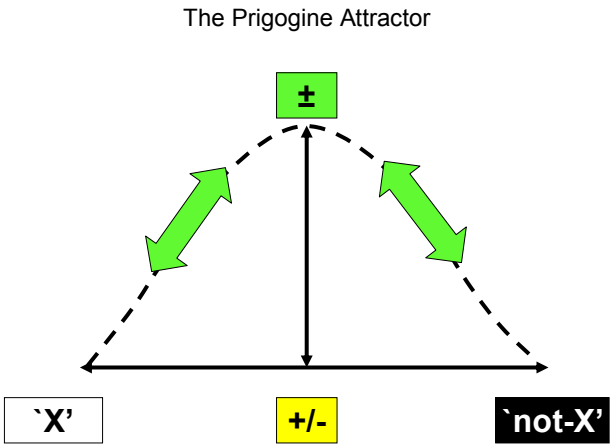

Fig 1: SYNCRETIC TRAFFIC-FLOWS

We may now ask which of these two patterns of economic expectation and cultural behaviour, `plenty' driven by rational science, or `scarcity' mediated by ritualistic art, is likely to come to dominate in the course of the 21st century. Clearly Capitalism – the `economics of plenty' red in tooth and claw – is more than ever the prevailing ideology at the present time. Indeed the Industrial Revolution may be said to have introduced a compelling new age of `super-plenty' for the elite classes of the Industrialised world (and a new industrial `super-poverty' too for the original proletariat[xiii]). For a couple of centuries, certainly, the arrival of an all-conquering machine-ecology with its ultimate promise of abundance for all seemed to banish scarcity from the economic lexicon and relegate the ominous predictions of Malthus to the history-books. That sunlit future, however, always depended on the maintenance of a degree of global ecological inhomogeneity, to allow the `haves' to continue to treat the `have-nots' as a passive resource, thereby securing the `haves' their defining margin of surplus liquidity. In the longer run it was always inevitable that an all-conquering new ecology would by the sheer momentum of its own expansion eliminate or absorb all less developed forms of ecological life, thereby bringing about a new state of

global ecological *homogeneity*, in which the haves and the have-nots, with all their various heritages and discontents, like the survivors on the *Raft of the Medusa* in Guericault's painting, are all in the same planetary vessel together, competing for the same finite inventory of economic resources: the necessary precondition for a new universal `super-scarcity'. In the second half of the 20th century the arrival of intelligent low-energy machines to drive our previously unintelligent high energy machines radically accelerated this process of ecological diffusion and equalisation. Its tipping-point may have come with the events of 9/11, when the smart tools of the Industrial `haves' were for the first time used against them with giant symbolic effect by activists claiming to represent the pre-Industrial `have-nots'.

It is perhaps premature, as yet, to press the claims for a `new super-scarcity' arising naturally out of the globalisation of a successful new sapient ecology: albeit that today's rapidly escalating global portfolio of political, military, financial, commercial, environmental and health risks seems now to point increasingly in that direction. On the other hand it would be equally unwise to ignore the messages coming from our chosen `tracer medium' of visual art, which is already reshaping its attractors into the open, environmental form associated in the past with periods of closed/conservative evolution.

In the meantime, do we have a choice? If the `economics of plenty', acting through the instruments of Capitalism, ultimately destroy plenty itself – i.e. produce a catastrophic collapse of global economic resources – it may by then already be too late to avoid the Malthusian `hard landing' that now seems to await us at the end of the Capitalist rainbow. On the other hand, breaking with the Western-centric habit of the short view, and taking into account the evolutionary long view as it impacts on contemporary life, may free up minds to adapt more rapidly to changing economic realities as they arrive. Where necessary it may help us to recognise and not deny the `economics of super-scarcity' as an emergent property of `super-plenty' itself, and to look with new interest at the potentialities of the Prigogine attractor as a source of communal motivational agility. In case that should seem too frivolous a quest, it is worth recalling that the mass media, which have always led on syncretic meaning (and trailed on the analytic), are already the indispensable conduit of world-wide communication. The mass media, to be sure, tend to operate on a lowest common multiple basis. The evolution of attractors with highest common factor characteristics could be the next great creative adventure in our increasingly convergent and time-compact world.

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4,989 words

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[i] This paper was originally given at the conference: *Future Matters: Futures Known, Created and Minded* – Cardiff University 2006

[ii] The threat of a potential `hard landing' for the human species was implicit throughout the Cardiff Conference

[iii] The terms `cave art' and 'temple art' are used here as abbreviations for the much wider range of – respectively' - *found* and *constructed* art-environments which each genre of art embraced in its day.

[iv] The homology of art and sex provided (and still provides) for `passing off" in both directions: for art appreciated as pornography and for pornography appreciated as art

[v] Informally: `The entropy of a closed system cannot decrease'

[vi] E.H.Gombrich's eponymous best-seller (Gombrich 1950) has now sold in excess of 7 million copies

[vii] There are many potential parallels between the Mesolithic and the Modern age yet to be explored: both being `construction-sites' for a new ecological settlement

[viii] From a modern Neo-Darwinist viewpoint it is arguable that Darwin derived his original idea of natural selection by survival of the fittest from his observation of 19th century capitalist behaviour.

[ix] The Book of Genesis with its tale of the Fall from Paradisal food-gathering to sweaty digging and delving is one such record.

[x] `Scarcity' in this context should not be confused with poverty – the actual absence of resources.

[xi] Modern `hedge-funds' derive their profits from the secondary function of derivatives markets, which is to offer high risk/reward ratios in exchange for small initial `margins' of liquid capital.

[xii] Adam and Groves' 2007 work being an exception.

[xiii] The basis of socialism/syndicalism, with its appeal to a re-formatted and confrontational version of the `economics of scarcity'.