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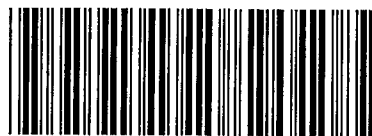
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Dissipating the Logogram

Alistair Welchman

The working out of the idea of culture is a slow reach again for control.
Raymond Williams¹

Cultural malaise. Certainly no-one now reaches for their revolver when they hear this word. But they are increasingly numerous who, when they hear the word 'thought', reach for their culture.
Alain Finkielkraut²

Personal Computer: Perhaps unwisely, the brain is subcontracting many of its core functions, creating a series of branch economies that may one day amalgamate and mount a management buy-out.
JG Ballard³

Three thoughts of culture: (1) the logogram: high-level software, the ROM BIOS of civilisation, the 'best that has ever been thought and written' (Matthew Arnold), secular theology, social phylum, explicitly ideal rampart against philistine disaggregation and the entropy of commodification, desperate and universal cognitive erection in the face of the massive loss of integrity brought about by capital; (2) the decay of the logogram: low-level shoring-up routine, localised resistance mediated through patchy⁴ and fragmented attempts at reconstitution, quotidian custom and regional habit nostalgically valorised at the point of their historical evaporation, instantly fit only for museums, tourists and markets; (3) the death of the logogram: evacuation of the hard-wired constraint of organic programming, reinterfacing of cognition and culture with the machine, technological reprogramming of consciousness driven by intensive economic shifts. These three thoughts relate culture to information, and to the relation of information to the organic and machinic strata. In all three, culture sites itself in relation to capital.

1. The Logogram

The term 'culture' only achieved linguistic autonomy at the time of its breakdown; an aborted concept. Initially signifying the rearing of animals, its meaning only shifted to the more familiar sense of the collective software of the species (or local groupings of the species) as a response to the threat posed to this universal memory by the destructive social and political effects of the rise of (especially the industrial fraction of) capital.⁵ This rooting of culture in the biological is extremely significant. For now, however, it is important to understand the present primary sense of culture, which is that it serves as a marker of the paranoid response of the remnants of the feudal English aristocracy

to their displacement by the mercantile (and then industrial) bourgeoisie and the destructive effects of capital. From Burke's *Reflections* to Matthew Arnold's *Culture and Anarchy*, culture retains this primary significance. Capital liquidates stable structurations of all kinds (God, the family, merchant guild monopolies on labour, theological limits to the circulation of fiscal flows in the form of usury, serfdom, the village, etc.), and something must be done to stop this anarchy: culture.

The cultural categorical imperative has always had to do with the monopolisation of technologies of stratified information transfer and long-term mass storage. The privileged means of the nostalgic reimposition of transcendent techniques of organisation on the molten socius of capital traditionally went by way of the disciplinary regimes of the education establishment and by means of the transfer of more or less extensive quanta of the sum of data stored in the memory bank of the Western *logos*. The close regulation of this data transfer would, it was vainly hoped, mitigate the increasing production of social entropy (disorder) by a universal coding running back through the past.

In England this attempt to regain control of the flows of population and misery created by early capital *through* the control of flows of information was characteristically pragmatic and muddled. In Germany, however, the process achieved a spectacular theoretical intensity. Retarded economically, and substituting the worst excesses of Prussian militarism for a bourgeois revolution, Germany vastly overcompensated in the arena of the theorisation of the repression of capital. Where England 'thought' control of and through information in the empirical terms of written history, Germany, in the figure of Kant, realised that such control was not going to be robust enough to deal with the cunning of capital.

A special caste within the aristocracy had always kept tight control on the movement of this social DNA: the priests. Clearly, however, technologies of information are themselves a circuit in the marketising loops of capital. From the 14th century there were innovations in the techniques for the dissemination of information; later, the 19th century saw the rise of bourgeois and increasingly mass literacy (concomitant with the very educational programs undertaken in the name of the monopoly of information). These created semi-autonomous markets in information operating relatively independently of the monopolising tendency of culture. These markets displaced the prominence of informational aristocracy just as surely as the general commodifications of capital displaced the rest of the aristocracy. Collective memory, thought on the temporal basis of history, always has a tendency to decay into noise. Kant saw that to lodge control mechanisms in the fluid mass of empirical history was inevitably to subject them to breakdown by that mass. Time is always a flow,⁶ but when capitalised it becomes a universal liquidation.

His solution was to invent (and prove the necessity of) a new kind of information. This information would remain relevant to the empirical mass (and would therefore be

contrasted with the European rationalist attempt to underwrite stability *via* a logic operating analytically and *a priori*, but would not be just this mass (thereby contrasting with the English empiricists' capitulation to contingency, anarchy and markets operating synthetically but only *a posteriori*). This specifically differentiated mode of information (of knowledge) was the synthetic *a priori*, or, in Kant's other important formulation, the transcendental. Transcendental information, Kant argues, is necessary because it is the condition of possibility of information flows: the empirical and temporal, dynamic RAM. Without the transcendental, capital itself would be impossible. Transcendental data as form or structure *produces* relatively contingent data associated with capital as controlled flow.

Already one can see a bourgeois theory of the state in germ - a theory that the English could only grope for: the state is that unity which makes possible markets by laying out a legal-infomatic ground within which - and hence under the constraint of which - transaction may first take place. The Academy, always essentially an instrument of the state, is the mechanism for the coding of the legal-infomatic ground into the populus. History, on this model, is then only secondarily the relentless destruction of the exterior and inauthentic impediments of the *ancien régime*, and primarily rather the enlightened tendency toward the authentic construction of one's own impediments guided by the transcendental dictates of pure reason.

The transcendental, in its distinction from time and decay, constitutes an immortal informational line that, unlike God's word - on which it is nevertheless closely modelled - makes contact with the empirical fluidity of capital-driven change, insecurity and uncertainty by making change possible, *producing* inhibited process through its static managerial matrix. Kant's transcendental-epistemological refinement of the immortal *logos* can indeed seem unduly theological. But it nevertheless has its correlate in Weismann's pioneering distinction - concerning the bios - between an immortal germ-line and a perishable soma that is its vehicle.⁷ Later, 20th century biology has made this distinction to one of information: after Mendel, the germ-line was replaced with the atemporal data genetically encoded in the genotype.⁸ *Bios* and *logos* are identically grammared⁹ as invulnerable data sources located behind an infinite negative entropy barrier. They are absolutely immune from decay and change, from time; they constitute an *unforgettable* memory. In both cases, transcendent data is tasked-out to process temporal degeneration. Memory secures from time a stable structuration with which to manage change: time becomes a pure form. In the absence of such management, there would be only anarchy (a term which from Hobbes to Marx to Arnold has been used to describe civil society under capital) and chaos (the biotic soup). Managing decline is a concept whose range far exceeds its obvious relevance to post-war Britain and continental Europe.

The logogram (or culture) is the transcendent informational matrix that organises civil society against the degenerative social effects of cultural entropy; the biogram is the transcendent informational matrix that organises the genotype against the degenerative

effects of physical entropy. The relative stability of the biogram as a producer of long-term negative entropy makes it a compelling model for the project of restructuring the social through the logogram. The control and management by the logogram of the corroding decay of the social under capital has always been modelled on the biogram. From Burke's account of the "organic society"¹⁰ and Kant's account of pure reason¹¹ to FR Leavis and TS Eliot¹² the dream of culture has been to impose the logogram on the social with the same efficacy as the biogram is imposed on the chemical: the fundamental fear of both is disarticulation into constituent atoms in irreversible equilibrium - entropy, death.

The attempt to suggest that the organic reconstitution of the social is in some way immanent in comparison with the transcendent structuring of the state under capital is therefore utterly comprised. The argument (and it is a common one)¹³ goes that pre-modern (that is, pre-capitalist) societies are unified, but exhibit little complexity. There is not much to unify. Modern (that is, capitalist) societies, on the other hand, exhibit large-scale complexity (the division of labour). The unification of such complexity is no easy task, and cannot be achieved through the action of high-level (and therefore ultimately transcendent) agents of organisation. The nation-state is the clearest example of this attempt at transcendent organisation. The alternative strategy is denoted by the term organic (alerting us to the presence of the biogram), and is, by implication, supposed to be immanent rather than transcendent. Its key point of distinction is that unity is functionally distributed over the whole of the socius, and not imposed from above, through the state. Unity must not be imposed from the outside, but grow, *organically*, from the inside.

The reactionary implications of the structuralist-functionalist school of sociological analysis are well-known. Their origins however must be sought further back in the very appeal to the immanent. The biogram, far from instantiating any immanent structuring, is the very basis of the transcendent model of the logogram: software masquerading as universal hardware, unerasable memory, invulnerable protection circuits, frozen data, ICE.¹⁴ The idea that the biogram provides a model for the immanent imposition of the logogram as cultural unity is akin to suggesting that Christianity is an immanent religion compared with Judaism. The primary point is that both are transcendent to start with; and any distinction is clearly one operating with the confines of the transcendent, attempting, for instance, to get transcendent structuring to come down to earth and actually *do* something. Certainly, the tradition of German romanticism which made its appeal to the biogram also gave rise to the most reactionary political-managerial consequences in its actualisation in the paradigmatic logogram of the German state.

It is worth tracing this particular misunderstanding back somewhat further. At stake is the distinction between *mechanical* and organic where mechanical signifies the external imposition of unity on a complex system (as above).¹⁵ Pre-modern or early modern authors make no distinction answering to this. Hobbes, for instance, legitimates the Restoration absolutism of the Stuarts (extrinsic ordering) with the organic model of the

Leviathan.¹⁶ The distinction emerges only from the industrial revolution and correlate developments in natural science. The paradigm changes in science are particularly important in this respect. Science's unparalleled cognitive success was predicated on the exhaustive nature of determinist mechanical-causal explanation. Such explanation is rigorously agnostic with respect to order, pattern and organisation (logogram or biogram). Systems pass through determined causal interactions that conserve any initial state of order, and neither produce any supplementary order nor destroy any extant order. To respond in any way at all to the evidently morphic structuring of nature, such a theory was compelled to locate any possible source of order outside the domain of determinist causal explanation, that is to say, outside nature.

Order transcends nature and cannot be a part of it. Clearly, this transcendence of nature on the part of order was ready-made to fit into the transcendent sphere of the theological. It is no surprise to learn that Newton was a Deist; he had to be. Increasingly, however, the cosmological luxury of theology was replaced by a structurally identical, but more pared down form of theology that located transcendent structuring of human conscious and intentional desire. The difference between the two theories is minimal. For both, order has its source in transcendence; and the immanent, nature, is ultimately bereft of pattern, dead. Notably, the organism - that egregious piece of complexity - is thinkable only on the basis of a transcendent structuring principle.¹⁷ Mechanism is the name for what demands a transcendent principle for order; organism is the name for that order. The two are intimately a part of the same nexus.

Mechanism, however, developed industrial teeth. Centred around the exchange of properties between causally interacting particles, Newton's science is that of the first phase of capital's incursion into Europe: the phase of the market. The technical and machinic orientation of the second phase, industrial capital, pushed science in a different direction. Great projects of mathematical cosmology were subordinated to detailed research into functioning of the engines of capital: and the new science of statistical thermodynamics was formed, the first rigorously mathematical science of order. Classical thermodynamics is not agnostic about pattern as mechanics has been. Its second law states that order (or negentropy) tends irrevocably to decrease over time, and to an absolutely minimal magnitude. The necessity for a transcendent principle with which to explain order was now subjected to an additional increase in strain, and responded with an additional increase in intensity.

Classical thermodynamics theorises the first act of matter: its liquidation of form. Indifferent to how order started, the matter of industrial capital now subjected it to a relentless corrosive decay, wasting it utterly. It is in response to this that the logogram appropriated the biogram. The logobiogram detemporalises form to conserve an impenetrable vault of patterned data, immune to the inevitable degeneration of the temporal. This immutable store is the resource for combating the remorseless slide into statistical randomness and informational white noise undertaken by the motors of capital.

Large tracts of objection to capital are routed through the restitution of a logogram looped nostalgically through the past. When Marxism approaches this question, it loops the logogram through the future.¹⁸ This avoids the worst excesses of nostalgia, an attempt to eradicate industry. But socialism is only with difficulty to be distinguished from the *management* of capital that informs slightly more sophisticated types of looping through the past: socialism is still the management of the *industrial*. It is the great merit of Raymond Williams's study of culture - a *locus classicus* for the early phase of British cultural studies - that it demonstrates the close affinity between a Marxist theory of culture, and that of the reactionary thinkers who dominate the text.¹⁹

In its strong - Hegelian - form, the Marxist loop through the future determines the proletariat positing itself as an object alien to itself (capital) through the medium of ideology or the fetishism of the commodity, and overcoming this alienation through a series of historic-conceptual sublations, culminating in socialist revolution and proletarian self-consciousness.²⁰ In its weaker forms (Gramsci and Althusser), the median term (ideology, culture or superstructure) acquires a problematic relative autonomy. This can open a space for the partial guidance of deep historical momenta through pragmatic political action; but is always apt to degenerate either back into the overwhelming historical trajectory or into Eurocommunist democratism.²¹ Relative autonomy is a compromise formation, impossibly attempting to negotiate between a historical outcome whose form is fixed in advance by the collective subject of history (history being nothing but the achievement of self-consciousness by this subject) and an outcome essentially dependent on the present formation of conscious intentions. The two limit cases are that the form of the outcome stands at the end of history pulling time through to its end, or that the form of the outcome is present at the start, but only virtually, in intentional posturing. These two, teleology and conscious intentional desire, both present a transcendent form or informational resource guiding and controlling the construction of a future state.

In the end, it makes little difference where the logogram is represented as standing in the temporal sequence. As imperishable data retention, the logogram is essentially outside time, indeed *against* time. The impossibility of thinking this exteriority to time makes the location of its appearance and intervention at some point in the sequence largely arbitrary. It is always a question of the 'slow reach again for control', for control of the social entropy induced by capital, for control in the face of disarticulation, disintegration and relapse. Culture or the logogram is such control. The strong version of Marxism renounces control over the transition to socialism (which is motorised by capital's contradictions); but socialism itself clearly reaps a displaced harvest of ultimate control as a reward for renunciation. It is only by the fiat of defining capital independently of industry and technology that Marx is able to equate socialism with the end of capital, but not of industry. What-must be controlled under socialism is the same process of industrialisation and mechanisation that is usually called capital.

The elaboration of a theory of culture or the mechanism of control is evidently necessary for Marxism; but the effect of this elaboration is to demonstrate the identity of this culture with bourgeois attempts to resist disintegration by subjecting capital to rational-technical management. Gramsci's theory of hegemony, for instance, is equally a theory of the maintenance of bourgeois control as it would be of proletarian control (over political institutions proximally, but ultimately over capital or industry).²² Similarly, the only model that Marx can appeal to in his sketchy thoughts of socialism, is that of the directly social nature of the feudal economy, its freedom from the sophistications of the fetishism of the commodity; and this is the very same reference point that anchors the most reactionary proponents of the logogram.

2. The Decay of the Logogram

The logogram was always dream, a transcendent illusion. Nothing is immune to time, decay, capital and thermodynamics; especially not information which can itself be analysed in thermodynamic terms according to the equation $\text{entropy} = \text{noise}$. The production and circulation of the Western *logos* were subjected to technological innovation from very early on. By the time of the rise of the industrial bourgeoisie, capital had created a relatively mass market in the logogram, and culture was already a commodity. The commodification of the logogram subjects it to just what it was intended to control. The mass distribution of the mechanisms of reception and implantation of the logogram, through the expansion of education, created the conditions under which a market in culture could be initiated. Once started, such a market refused to demand only the universal stabilising contents of the logogram itself. Instead, the logogram spread out into time and culture bifurcated into high (the logogram proper) and low (the logogram as commodity). Since the logogram was always paralogical, this had already happened by the time the terms in which it could be understood had emerged. As has already been suggested, culture and the logogram were born dead.

In partial acknowledgement of this, the logogram has fragmented. The dream of pure culture is one of enlightenment: Habermas' monumental work on communications theory demonstrates the extent to which the enlightenment project is fundamentally one of the mass dissemination of pure data.²³ Bifurcated and then fragmented culture, the decay of the logogram, is primarily a response of the counter-enlightenment. It is this that Alain Finkielkraut is referencing (in the banner quote above) with his distinction between "thought" (the enlightenment) and "culture" (the counter-enlightenment). The transcendent logogram, universal data manager, has decomposed into the regional, the local, the infinitesimal. Decay has been an intense issue since the rise of capital. With the development of classical thermodynamics it became a universal and cosmological enemy. Only recently (since perhaps the 70s) has decay set in at the level of theoretical intervention so that accounts of fragmentation and decay have themselves to be fragmented and decayed.²⁴ This fall of the *logos* into capital however has not stopped its pretensions to transcendent control and management.

The German romantic counter-enlightenment, whose most fervent representative was probably Herder,²⁵ laid particular emphasis on the opacity of language as the medium of data transfer. This emphasis has three important components. (1) language can be plausibly presented as a condition of thought. It therefore retains a structural-managerial role *vis-à-vis* the data it is primarily responsible for circulating, a role that is locally analogous to that deployed by Kant's categories; (2) it is nevertheless not *obviously* located outside nature, and is, in a certain sense, susceptible to time and history; (3) it opens out onto a whole range of more or less localised customs and habits which exhaust the new domain of the fractured logogram. These components form the basis of a modified species of resistance to capital that goes by way of the managerial conditioning power of local logograms and operates tactical disinvestments from capital through protectionist economic policy and the reconstitution of small-scale identities tending toward the collective autonomy of a nation-state.

This train of thought by no means perished with the German romantics. It has been most recently manifested in the dominant role of structuralism in francophone thought, and especially structural linguistics and anthropology. In the core text of the structural movement - the *Cours de linguistique générale*²⁶ - Saussure makes his most decisive distinction between language as *langue* and language as *parole*. These are broadly, though problematically, aligned with his polemical methodological distinction between his new synchronic and the old etymological diachronic linguistics. *Parole* is everyday speech, empirical information, and is perilously vulnerable to chronological dismemberment by the machinic process²⁷ of agglutination. He suggests:

The action of phonetic change is unlimited... it is puerile to think that the word can only transform itself up to a given point as if there were something in it that could preserve itself (208); no characteristic [of language] is permanent by right; it only persists by chance (313).

Moreover, the general tendency of *parole* in time is towards "indefinite fragmentation" (267-8). Sure that he has found a secure site of resistance to fluvial degradation, Saussure is more than usually lucid about the extent and tendency of such degradation: there is "only an amorphous and indistinct mass of thought... chaotic by its nature... a nebulous... plastic matter" (155-6). Emerging mysteriously out of this nebulous mass is *langue*, the system of pure differences between signs that is now familiar in the general project of semiotics.²⁸ It is this system that is responsible for all the order of the mass of *parole*; and it is this order that enables *langue* as a data-transmitter, rather than just a statistical mess at maximum informational entropy.

The two systems (or rather the system and the mass) are however, utterly unable to communicate:

The radical antimony between evolutionary [diachronic] and static [synchronic] facts has for its consequence that all the notions relative to one or the other are to the same extent irreducible to each other (129).

History is strictly unthinkable for Saussure, "The intervention of history can only falsify his [the linguist's] judgement" (117). It is impossible to analyse the conditions of production of *langue* out of *parole* because *langue* is always presupposed as the *linguistic* object of analysis. Without this presupposition one would be faced *only* with the putrescent corpse of meaning, with statistical randomness, and one would not therefore be studying *langue*. Saussure is indeed compelled to resort to theological references to explain the notion of *langue*: "In each state spirit [*l'esprit*] breaths itself into a given matter and vivifies it" (122).²⁹

The only hint that Saussure gives about the process of construction of *langue* is in his suggestion that the tendency of language to infinitesimal dialectisation is arrested by the formation of nation-state unities (correlate with the development of capital). The formation of the nation-state is at the same time the formation of what Saussure quaintly euphemises³⁰ as a "literary language" (267), a distended dialect that re-imposes on temporal fragmentation a unity. This unity is ultimately the transcendent unity of *langue* as system; the spiritual logogrammatic state. It is an uncomfortable welding of specific empirical cultural formations modelled on the nation-state, but with an uninterrogable and unilateral transcendental backing.

The logogram makes only passing acquaintance with the acid of entropic time. It is, in its most theoretically sophisticated form, subjected to a chronic decay that is strictly unthinkable from the point of view of the logogram. Only its effects can be detected, in the multiplicity of possible systems that can (impossibly) emerge from the unformed mass of phonic white noise, and from the inconceivable shifts that the system is compelled to undergo as a result of the irrational pressure of linguistic loss. The system itself is immune from such loss, and mysteriously, transcendently, reconstitutes itself as a seamless system after each entropic push. Althusser's notion of the *coupure épistémologique*, and Foucault's notion of rupture follow immediately from Saussure's analysis of diachronics.³¹ History *must* be seen as a completely irrational upsurging of change; and simultaneously, as one that leaves the logogram - as logogram - itself untouched, pristine.

3. The Death of the Logogram

The logogram is based on the principle that all order, form, patterning, negentropy, information or statistically significant deviation from randomness must have their source outside what is patterned or ordered. It is one of the oldest thoughts, Platonic even. But it achieves ascendancy only when nature is reconceived as a positive-threat. Thermodynamics and capital wrest time and nature out of the cyclical classicisms of death and regeneration, and insert them into an altogether more abbreviated and more sinister series: death alone. Order is not just something to be explained, a cognitive problem, but something whose tendency is to automatic obliteration. From the principle of the logogram comes its imperative: there *must* be order.

The principle of the logogram is however misconceived. Liquidation and destruction are themselves morphogenic; the slide into noise is the energy of information. Contemporary thermodynamics³² makes a crucial distinction between the special case of classical systems whose long-term tendency is linear decay into a state of maximum entropy, and which are located close to final equilibrium, and the more general case of systems located far from the final equilibrium position, and whose descent into entropy is non-linear in virtue of systematic self-modification. In the general case, the dissipation and liquidation of stable structurations (inherited from a high-level of negentropy and functioning as input) is immanently displaced into the spontaneous generation of complex systems operating at intermediate entropy levels. Complex systems can only arise in this way. Chronic disintegration of the stable structures of the past is the motor of the complex organisation of the future.

Capital and evolution are the two most elaborated instances of complex systems functioning within the terrestrial ambit. They are both operated by the same abstract thermodynamic machine: complexification concomitant upon dissipation. The biogram is not essential to life. It is rather the *decay* of the biogram and the degradation of its codings into noise (random mutation) that fuels its slow refinement. To suggest that all complexity is the result of the biogram of course also makes it impossible to understand the conditions of production of the biogram itself. The origin of articulated replicating molecules cannot have come about as a result of evolution, since such molecules are the *condition* of evolution. The similarity of this *impasse* in modern biology is strikingly similar to that experienced by Saussure in his understanding of history in relation to the logogram. In both cases the origin of the gram as ultimate transcendent source of order is unthinkable because, as ultimate source of order the gram must always be presupposed.

Recent work in biology has suggested that the role of DNA in morphogenesis has been overestimated, and that complex organisation emerges from the fundamental properties of matter.³³ In the general case of matter in a state far from long-term thermodynamic equilibrium, and in the presence of a feedback loop (for instance in an auto- or cross-catalytic set of chemical reactions) it is *expected* that the movement of dissipation will be morphogenetic. This enables explanation of the origin of the biogram through material automatic self-assembly processes. And it also therefore limits the ultimate importance of the biogram which is compelled at every stage to defer to other processes of self-construction immanent to chronic dissipation.³⁴

To model the logogram of culture on the biogram is therefore a miscomprehension of the biogram. Nature too is a product; a fact obscured by the apparent hegemony of the biogram. To call for the institution of the logogram as the basis of a political programme is to compound the misunderstanding. In order to perform its assigned task of resisting the fragmentation of stability induced by dissipative systems, the logogram must be transcendent, hyperstable and always presupposed. But it is inane to call for the conscious reconstruction of the eternal.

The logogram is a desperate attempt to retard capital by mapping onto it an eternalised version of the control mechanisms of the biogram. This project concludes from the relatively inhuman time-scale of organic dissipation (over evolutionary time) to the transcendent fixity of the biogram. But the very terms of the presuppositions of this argument defeat it. One only appeals to the biogram as a model for the logogram *because* the dissipations wrought by capital are precisely operating at a far greater speed (and with an accelerating rate of technical change) than the dissipation of the biogram; that is, because the dissipations of capital are obviously *not* being governed transcendentally or by anything even remotely approximating the control of the biogram over organic squandering (itself overestimated). Capital had, by the late 19th century, wasted all the inherited cultural neg-entropy of feudal Europe,³⁵ and the late 20th century has seen the capitalisation of even the most stubborn areas of modernist resistance. Developmental fetters on capital now emerge rather from capital itself in the form of monopoly power.³⁶ The *need* for a logogram based on the biogram (a need that quite often betrays itself as desperate) bears witness to the fact that there is actually *no* logogram controlling capital to anything like the extent to which the biogram controls the organic.

The biogram itself - the inflexibility and sloth of the organic - is the last major (although not cultural) inherited source of negentropy for capital to dissipate. The training of docile subjects - analysed by Michel Foucault under the general heading of the disciplinary society - is becoming decreasingly important in its traditional forms (education, penal reform, military-bureaucratic gestural reinforcement, techniques of the body). The cultural training programme of literacy, the implantation of decoding techniques for wide-circulation information sources, is increasingly being replaced by technical prostheses (TV, visual and sound objects on the World Wide Web) that automatically decode fast-flow information and present it in a form that no longer requires the recipients themselves to possess complex decoding techniques. The tendency is to substitute technological mechanisms for the implantation of disciplinary techniques; and its orientation is toward direct interface with the neural cortex bypassing even evolutionary-perceptual mechanisms.

The Human Genome Project anticipates the intervention by capital in the evolutionary processes through germ-line modification. A contemporary research strand in computer science has recently succeeded in utilising high-level biogram components (short DNA strands) in chemical reactions to solve an abstract mathematical problem.³⁷ These suggest that capital is increasingly involved in the reprogramming of the biogram and accelerating its dissipation. The biogram, as long-term memory store, is being treated as a reservoir of informational neg-entropy whose de-stabilising releases the data-fuel of a new synthesis.³⁸ This new alliance is heralded by JG Ballard's remark (banner quote above): the farming-out of core functions of cognition - once the sacred province of the logogram - to standardly technical machines. But its significance exceeds this possibility. It is not a question merely of *replacing* the biogram, but of reprogramming it. In the first instance, this operates by accelerating biological

evolution under new conditions of optimality (direct intervention in the germ-line); but in the second instance, it operates by severing the link between the information-processing capacities of the biogram and the production of organisms (biocomputation), opening out the range of possibilities offered by such processing from constriction within the production of individual phenotypes.

The logogram is transcendent order and information external to time and decay. It presupposes that matter itself is only noise and chaos; or, in the worst case, that matter is the inexorable tendency to noise and decay. The relative stability of the biogram provides a privileged model for the project of *resisting* matter and its destructions. This model is inaccurate: the logogram as well as the biogram have never existed in this sense. Matter, even at the level of the chemical, self-assembles using its own dissipation fuel. The concept of the logogram only came into existence as an ideal and fundamentally political project to address the demise of relatively stable social structure. The idea of the logogram was born in response to the disintegration of the social neg-entropy of the feudal. The biogram by contrast answers to a real constraint on the dissipative energy of the organic stratum: the relative longevity of the genotype. The nature of this constraint has been persistently misunderstood and over-emphasised, even in biology. Taken as the origin of all order, the biogram can itself not have an origin; and the role of material self-organisation is thereby occluded at every stage. What is more important to address now though is the fact that capital is about to break even this down and release the potential material energy of the genotype by reprogramming the biogram. The production and circulation of information under capital as immanent system can no longer be thought as the logogram because the primary model for the transcendence of the logogram, the biogram, is itself being subjected to reconfiguration. Culture - rethought as capitalised data - has taken its revenge on the biogram, opening up a whole new domain that demands study.

Notes

1 *Culture and Society 1780-1950* (Harmondsworth: Penguin, 1963): 285.

2 *La Défaite de la pensée* (Paris: Gallimard, 1987): 9 (my translation).

3 "Project for a Glossary for the 20th Century", in *Zone 6: Incorporations*, Jonathan Crary and Sanford Kwinter, eds. (New York: Zone Books, 1992):277.

4 'Patching' is the term software developers give to the temporary correction of software faults (bugs) between major version rewrites. A patch is a small section of code (usually made freely available on the Net) that users download and execute. It combines with the original software, reconfiguring or simply bypassing the malfunctioning sections.

5 Williams significantly locates Milton's resentment against the Restoration in 1660 as a point of transition in the meaning of the term (*op. cit.*, 324-5). At its birth 'culture' is linked both with a call to order (the Restoration), and with the failure of a revolutionary social practice (the Republic) itself to sustain order. It was this order of culture that Milton later satirised in the surly, flat and unimaginative God of *Paradise Lost*.

6 *Critique of Pure Reason* A170; B211 (references are to the pagination of the first and second German editions), reproduced marginally by Norman Kemp-Smith's translation (London: Macmillan, 1929).

7 See *The Germ-Plasm* (London, 1893).

8 See Richard Dawkins, *The Selfish Gene: The Long Reach of the Gene* (Oxford: Oxford University Press, 1976).

9 The terms biogram and logogram are taken from Robert Anton Wilson's and Robert J Shay's *The Illuminatus! Trilogy* (New York: Bantam, 1975). The authors however have a tendency to descend into romanticism in their attempt to distinguish the structure of the two: privileging the immediacy of the biogram, and seeing the logogram as a political conspiracy. See, for instance, 499.

10 Williams, *op. cit.*, 31.

11 Kant describes the system of pure reason as an organism in the *First Critique* (*op. cit.*), A833; B861. In addition, see footnote 12.

12 The organic nature of FR Leavis' suggestions hardly demands citation; Eliot suggests the tendency of modernity is to convert the 'spiritual organism of Europe' into a 'mere mass'. See Eliot's *Notes towards the Definition of Culture* (New York: Harcourt, Brace and Co. 1949):123. For a further examination of this lineage, specifically with regards to Kant, please see other sections of the text which deal with German Romanticism.

13 Nearly all the thinkers that use the biogram as model for the logogram appeal to it. Durkheim might be cited as an important founding instance for sociology. He argues that the organic solidarity of the division of labour prevents all social cohesion from emerging only out of the state as transcendent organising principle. He describes this latter as the anomic or pathological condition of the division of labour, and proposes a return to the guild system with its lower levels of unity as a remedy. See *The Division of Labour in Society*, trans. WD Halls (London: Macmillan, 1984): 291 ff.

14 This last term is William Gibson's. It is an acronym for Intrusion Countermeasures Electronics, his term for the security systems constructed to protect data in cyberspace. See *Burning Chrome* (London: Grafton, 1986):196.

15 Durkheim's use of mechanical is in this respect deviant. He uses it not to refer to extrinsic unity, but to undifferentiated unity. The appropriate substitute term is pathological or anomic.

16 Williams also notes the mechanical/organic distinction as another one correlate with the industrial revolution, and unheard of before the 16th century in England (*op. cit.*, 256-7).

17 Kant is again the *locus classicus* of this thought: it is the argument of the second part of his *Third Critique*, *The Critique of Teleological Judgement*.

18 Marx himself never elaborated a theory of the logogram; hence the ambiguities of the Marxist accounts of the state and culture.

19 'We [i.e. Marxists] can say of Eliot what Mill said of Coleridge, that "an enlightened Radical or Liberal [or Marxist in Williams' case]" ought "to rejoice over such a Conservative."' *op. cit.*, 244.

20 G. Lukacs, *History and Class Consciousness: Studies in Marxist Dialectics*, trans. R. Livingstone (London: Merlin Press, 1971).

21 In the case of Gramsci the latter; in the case of Althusser the former.

22 In *Selections from the Political Writings* (Quintin Hoare and G Nowell-Smith, eds. and trans. (London: Lawrence & Wishart, 1987): 410) Gramsci discusses the cultural sense of hegemony for the bourgeoisie; in *Selections from the Prison Notebooks* (Quintin Hoare and G Nowell-Smith eds. and trans. (London: Lawrence & Wishart, 1971): 350), he argues for the same mobilisation of culture on the part of the Communist Party and its hegemony.

23 J. Habermas, *The Theory of Communicative Action* (London: Heineman, 1984).

24 This phenomenon is misleadingly known as postmodernism.

25 Against whom, it has been suggested, much of Kant's enlightened polemic, especially in the *Third Critique*, was directed. See John H Zammito, *The Genesis of Kant's Critique of Judgement* (Chicago & London: The University of Chicago Press, 1992).

26 Paris: Payot, 1962. References are to pages of this edition; translations mine.

27 '*processus*' not '*porcédé*' because "the latter word implies a will, an intention, and the absence of will is just the essential character of agglutination... [which] is a mechanical process [*processus*]" (244).

28 Itself broached by Saussure (although not fulfilled until Barthes): "One can imagine a science that studies the life of signs at the heart of social life... we shall call this science *semiology*". (33)

29 A sacred reference to *Ezekiel* 37:5.

30 The process of linguistic unification of the nation-states in Europe was attended with several systematic attempted linguistic genocides.

31 L. Althusser, *For Marx*, trans. B. Brewster (London: Allen Lane, 1969) and M. Foucault *Archaeology of Knowledge*, trans. AM Sheridan (London: Tavistock Publishers, 1972).

32 Ilya Prigogine and Isabelle Stengers, *La nouvelle alliance* (Paris: Gallimard, 1979), 2nd edition with preface and appendices, 1986, partially translated and somewhat rewritten by the authors as *Order out of Chaos: Man's New Dialogue with Nature* (London: Heinemann, 1984).

33 See Stuart Kauffman, *The Origins of Order: Self-organization and Selection in Evolution* (Oxford: OUP, 1993).

34 See Brian C. Goodwin, "The Evolution of Generic Form", in J. Maynard Smith and G. Vida, eds., *Organizational Constraints on the Dynamics of Evolution*. (Manchester: Manchester University Press, 1990).

35 Perhaps the only openly feudal institution left is the Academy itself.

36 Some authors have suggested reserving the world capital for these self-produced fetters, and using the term market to refer to the more aggressive components. See Robert Anton Wilson, *et. al., op. cit.*, "Capitalism: That organization of society, incorporating elements of tax, usury, landlordism and tariff, which thus denies the free market while pretending to exemplify it" (623).

37 The Hamiltonian Circuit Problem, or more familiarly, the travelling salesperson problem. See Leonard Adleman's article in *Science* Vol. 266 (November, 1994).

38 An analogy might be made between this and the use of fossilised organic molecules as fuel for internal combustion engines.

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