

Greetings gentle readers -

this is one of my “herd of wildebeest” papers, I’m afraid, but might contribute something to the discussion. It is a slightly reworked version of a paper from a couple of years ago ...

The paper is part of a larger project I have been working on for some time - *on the politics of cognitive models*. By this I mean the ‘ecologies of practice’, as Isabelle Stengers calls it, of cognitive models. The project aims to deal with the political/cultural event of cognitive models, the entangled histories of these models, and their contemporary contribution to political and cultural practices. Although the truth or otherwise of these models is important to this, it is secondary to how models work in practice. So this is, if you like, “cultural theory” not philosophy. I am interested in how cognitive models work in academic contexts (what, for example, are the cognitive assumptions of cultural studies, which sometimes claims to evade them?). However, I’m more interested in how cognitive models function in general culture - particularly in areas such as work and education. For the record, my notion of “cognition” is not really of cognition at all, traditionally defined. It lies somewhere between: postconnectionist, embodied, enactive models (Francisco Varela, Andy Clark, Alva Noë), contemporary neuroscience, the awkwardly termed “postpoststructuralist” ideas (Brian Massumi, Bernard Stiegler, Deleuze and Guattari) and maybe even some “prepoststructuralist” ideas (Whitehead, James, Bergson and I would probably include Merleau-Ponty if I ever found time to read him). The other side of this is that I am not a cognitivist (or even a Kantian really) - although I think cognitivism is much more widely spread than it seems - as widely spread as it does indeed seem. When it comes to cognitive models there are a lot of them about.

My personal departure point for all this has been the infestation of education with audit, evaluation and performance procedures, and their impact upon academic work. In Dejours’ terms, I began to find the “suffering” produced in trying to deal with these

procedures interesting, although I am just as interested in the cognitive dissonance and affective power involved when academics seem to joyfully embrace them¹.

Of course, there are others working on this kind of thing - notably (for me) Paulo Virno, Maurizio Lazzarato, Paul Edwards, Marilyn Strathern and Brian Holmes, just to name a few. However, my interest is, surprisingly for a supposed "postpoststructuralist", decidedly big picture - even bigger picture than most of these thinkers. I'm interest in the many strange translations and conjunction that are not hard to find, concerning political/cultural ecologies and cognitive models. This is indeed big picture - linking for example the development of behaviourism, cognitivism, psychoanalysis and cybernetics, with political developments from Walter Lippmann and Edward Bernays work on PR, the cold war, the import of psychoanalysis into American society, events such as Hayek's decidedly cognitivist-connectionist take on the market, the development of performance and audit systems, even the rise of structuralism and theories of ideology. Here I am particularly interested in the roles than cognitive ecologies have played in the successful rise of the right and - last but not least - new configurations of work, notably and centrally involving education. As I've mentioned, critical work in this kind of area has been emerging recently. However, it is amazing in some ways how slow the uptake has been when it comes to examining some key assumptions - or key historical events.

For me, this is because cognitivist assumptions have been so successful culturally and politically, have infused (since Kant, and moreso since post-WWII) so many aspects of culture, politics, philosophy and technological development. So it was with some delight that I heard from Nick Smith about Christophe Dejours and read his 'Subjectivity, Work, and Action'.

¹ Here Dejours, as described by Brian Holmes, perhaps begins to explain things. Holmes is here concerned with a 'ruthless pleasure, against a background of exploitation and exclusion, [that] has become entirely typical - an example of the opportunism and cynicism that the flexible personality tolerates'. He writes that -

The ultimate reason for this tolerance appears to be fear. In *Souffrance en France* (Paris: Seuil, 1998), the labor psychologist Christophe Dejours studies the "banalization of evil" in contemporary management. Beyond the cases of perverse or paranoid sadism, concentrated at the top, he identifies the imperative to display courage and virility as the primary moral justification for doing the "dirty work" (selection for lay-offs, enforcement of productivity demands, etc.). "The collective strategy of defense entails a denial of the suffering occasioned by the 'nasty jobs'.... The ideology of economic rationalism consists... - beyond the exhibition of virility - in making cynicism pass for force of character, for determination and an elevated sense of collective responsibilities... in any case, for a sense of _supra-individual interests_" (pp. 109-111). Underlying the defense mechanisms, Dejours finds both fear of personal responsibility and fear of becoming a victim oneself; cf. pp. 89-118.

AUDITLAND

EDUCATION AND COGNITIVE LABOUR

Andrew Murphie

PREAMBLE - TECHNICIS' CHALLENGE TO EDUCATION

Today, when automated understanding and a certain schematisation of the cultural industries are beginning to converge, this educational system with its nineteenth-century roots - a system inspired by seventeenth- and eighteenth century ideas and used as a device for internalising the prostheses that form the history of knowledge and of the "we" (understood as universal consciousness distinct from national histories) - is challenged by the transformation of the technical system into a planetary industrialised mnemotechnical system of retention. And with it "consciousness" (as such) is challenged.

(Bernard Stiegler, 'Our Ailing Educational Institutions')

Should we be at war too, we, the scholars, the intellectuals? ... It does not seem to me that we have been as quick, in academia, to prepare ourselves for new threats, new dangers, new targets. Are we not like those mechanical toys that endlessly make the same gesture when everything has changed around them?

(Bruno Latour, 'Why Has Critique has Run out of Steam? From Matters of Fact to Matters of Concern', p225)

Intellectual work cannot be reduced to pure cognition. Rather, working goes first through the affective experience of suffering, the pathic, and there can be no suffering without a body to undergo it. This means that intelligence in work can never be reduced to subjectivity looming over the subject. Subjectivity is only experienced in the insurmountable singularity of an incarnation, a particular body, and a unique corporality.

(Christophe Dejours, 'Subjectivity, Work, and Action')

... the essence of work does not belong to the visible world ... what is evaluated can only correspond to what is visible (the materialized part of production) and what has no proportional relationship to real working ...

(Christophe Dejours, 'Subjectivity, Work, and Action')

Now that we have arrived in what I am calling Auditland, where are we? What is our very concept of a "we" now based upon? How is worked transformed by the conjunction of audit culture, cognitive labour within education, and globally integrated 'mnemotechnics'? In this article, the rise of audit culture, as a series of forms of management of cognitive labour within education, is linked to a broader consideration of the globalisation of technologies of memory, as described by Bernard Stiegler. In particular, the article considers Stiegler's analysis of the intervention into the very basis of thinking processes via the use of technologies of mediation. For Stiegler, education is at the centre of this intervention - as perhaps both machine and symptom. From Stiegler's work a critique of audit culture is developed. This is partly a political critique (that is, of the political effects of audit culture). More simply, however, audit culture's claims not only to truth, but to managerial effectiveness, or even relevance to real work, are questioned.

The work of Christophe Dejours, on the pathic nature of work is a key point of departure here. Dejours defines work not as a neat conformity to generalised, prescriptive systems and processes, but as the result of precisely the opposite - the impossibility of conforming to such systems. For him, 'working thus means **bridging the gap** between the prescriptive and concrete reality' (2006). Following this, for Dejours, work evades the evaluation fundamental to audit for two reasons.

First, the event of work possesses an ongoing 'insurmountable singularity', with a particular 'incarnation, a particular body'. This means that 'Intellectual work cannot be reduced to pure cognition'. It cannot be reduced to the generalised cognitivist formulae that are crucial to audit, as clearly enunciated, for example, within education theory for the past 50 years (see Bloom et al for the best known example), but also found throughout performance management, evaluation and elsewhere. These cognitivist formulae claim a double effectiveness, both a predictive (e.g. Key Performance Indicators or KPIs) and an evaluative effectiveness (in contemporary edu-speak they are both "formative" and "summative"). However, following Dejours we might argue that it is precisely their ineffectiveness that is doubled with regard to real work.

It is in this disregard given to real work, however, that audit's real power might paradoxically lie. This means that we must look elsewhere than efficiency for their cultural power. One obvious place to look is towards a general politics, but here, via Stiegler, I will also look towards the assumptions about technics involved. I will examine

this question via Steigler's work and via the other main set of ideas examines here, those of contemporary anthropologists led by Marilyn Strathern. This will perhaps throw light on the embrace of audit by nearly all sides of what remains of the political fence (if anything, considering the general embrace of audit, does remain apart from a few rotting fence posts). A guiding assumption here is that we are all neoliberals ("we are all individuals") these days. This might be as much by coerced participation if not by belief - yet if we are all neoliberals, it is perhaps precisely because of the power of audit culture. Indeed, this has been its primary political effect - to convert so much into neoliberal practice, even among those who despise it. As such, audit is a key aspect of the contemporary radical conservative climate. The history of audit and its attendant cognitive models could also be seen as crucial to the history of the planning and strategies that have, over the past 50 years, led to the current radical conservative climate (a topic for another paper). On the other hand, as I shall suggest briefly below, there's nothing very liberal about neoliberals.

The second reason that, for Dejours, work evades the evaluation fundamental to audit, is that -

... the essence of work does not belong to the visible world ... what is evaluated can only correspond to what is visible (the materialized part of production) and what has no proportional relationship to real working ...

Again, however, this can be seen to be a strength of audit. Audit leaves aside the real work of the individual, the suffering, the pathetic, the body. It operates in favour only of what can be brought to light according to particular abstract principles. These are often cognitivist principles in the service of particular styles of cognitive products (cf. the Creative Industries and Intellectual Property). Aside from these products, audit services a particular set of cognitive models and related processes aligned with neoliberal fantasies and contradictions. For audit, work - as suffering - is meant to be carried out invisibly, even if it must visibly produce products that are seen to contribute to generalist cognitive goals that align themselves with particular political interests (not necessarily of the state).

What is at the basis of these interests and why do we make our own contribution? It is a series of forms of exchange within the parameters of what Paulo Virno, following Marx, calls the "general intellect". We contribute because we have to, or because we seek security in so doing. In this respect, Paulo Virno describes these general cognitivist goals as arising in part from the destruction of community. The goals are at the level of -

... linguistic-cognitive faculties common to the species ... the general intellect. It has to do with a unity/universality which is visibly unlike that of the state. Let us be clear: the cognitive-linguistic habits of the species do not come to the forefront because someone decides to make them come to the forefront; they do so out of

necessity, or because they constitute a form of protection in a society devoid of substantial communities (or of 'special places'). (Virno, 2004: 42)

Virno's description of this 'grammar of the multitude' (see also Murphie, 2005) and Dejours work as suffering with regard to "predictive systems" both allow us to grasp the fact that *audit has two sides*. One side of audit is the very obvious regulation of visible "cognitive products" and processes, including especially the ongoing auto-production of "predictive systems" ad nauseum, with various self-fulfilling effects that become tools for promotion and aggrandisement (and security) within managerial cultures. On this side we also find the supposed regulation of (but in fact exacerbation of suffering via) thinking processes as work. All this has been well-documented and discussed.

The other side of audit, however, is much less obvious. Here audit seizes the very unpredictability of the worker. It targets what it pretends to exclude - the abstract generative potential to be found in life of the worker. It lures as it constantly discards the actual life of the worker (thus the necessity of a psychoanalytic account of work as found in Dejours²). As Virno puts it -

Capitalists are interested in the life of the worker, in the body of the worker, only for an indirect reason: this life, this body, are what contains the faculty, the potential, the *dynamis*. (Virno, 2004: 82-83)

Thus the triple complaint I suspect many have about audit - its three kinds of suffering. First, it forces us to conform to narrow principles and reductive propositions, to speak and think - in fact, eventually to fall in love - with these principles and propositions. It secondly denies us our *individual* potential, our personal experience, our habits of working, perhaps what we feel is our very own ingenuity or skill. As Dejours puts it, what is denied is 'the insurmountable singularity of an incarnation, a particular body, and a unique corporality'. If thinking is embodied and enactive, the denial of a particular body and a particular habit of thought go together. If that is not bad enough, however, thirdly, audit demands *performance, originality even* - in short, having apparently restricted us, it still wants something of "our" potential, even if it is often hard to determined exactly what this is. Of course, in the interests of economy, we will not have what we give of our potential returned to us.

In short, audit is not meant to clarify, to make things run smoothly. It is *meant* to cause suffering - to muddy or obscure things, to stir them up. As systematic as it is, audit is destructive of given processes - even its own, in situ - at the same time as it seems to fulfil them. And if audit often seems meaningless it is often deliberately so - meant to

² The obvious parallel here might be to Deleuze and Guattari's schizoanalysis, which deals with many of these themes, and to Guattari's work on metamodelisation and schizoanalytic cartographies (see also Genosko, 2003).

diminish “meaning”, even especially the meaning of Dejours’ suffering, so as to improve the unfettered circulation of management and broaden the ambit of certain kinds of economy.

Let me put this another way. Audit is culturally and politically effective precisely because (impossibly for the individual worker) it redirects libidinal flows and what Spinoza famously called “ the power to affect and be affected” away from ‘the insurmountable singularity of an incarnation’. Again impossibly for the worker - thus the suffering - it directs these towards cognitive processes conceived as general intellect, as circulation of signs as value through general systems. Audit closes down meaning in favour of the capitalisation of abstract cognitive products and life processes within a complex and uncertain market. This market is precisely not about meaning but short term value (a university’s ranking in research quality tables, for example). (And for me, at the basis of all this is the cognitivist “brain-magic” [Murphie, 2006] of symbols processed in the brain, which is only the more powerful for not being empirical verifiable).

As I’ve mentioned, the denial of the specificity of bodies and processes works in favour of generalist measurable exchange and what is often competitive evaluation. This also means that audit - despite all the backslapping involved in managerial togetherness - is destructive of community. Audit tends to forget that we have to live together as we work and thus fosters a climate of mistrust in the workplace. As Dejours puts it so well, as opposed to prescriptive coordination -

Cooperation presumes a de facto compromise that is always both technical and social. This is so because working in never just producing; it is also, and always, living together .. and living together is not self-evident - it presupposes mobilizing the workers’ determination in order to ward off violence in the disputes or conflicts that might arise from disagreements over the ways of working.

Education is crucial within a climate in which prescriptive coordination contests cooperation. It is crucial, both technically and socially (if indeed we want to separate these), to the manner in which both coordination and cooperation come into the general community. This has long been realised as such by the likes of Friedrich Hayek (1949, but see also his work with the Mt Pelerin Society, and subsequently, the Institute of Economic Affairs, see also Leo Strauss, Edward Bernays³). Let’s briefly consider Hayek in this respect. Here is is important to note, with Nesta Devine -

Although the importance of ... writing by Hayek should not be underestimated, his real impact but also ironically *his effectual theoretic subversion - took place*, not directly through his own writings, but *through the machinery he set up to*

³ This is another paper.

spread neo-liberal conceptions of economics, politics and government. (my emphasis)

Devine points to tremendous ironies here, however. The mechanisms involved in spreading neo-liberal conceptions have resulted in practices that are profoundly anti-individualist, anti-liberal (in fact a new form of the worst kind of authoritarian pseudo-socialism)⁴. This is something recently detailed in the Australian context by Lucy and Mickler. In the light of Virno's and Dejours' comments concerning the sacrifice of the individual, this should not surprise us.

There are some complexities involved as regards Hayek, however, especially as regards the "embodied experience" that Dejours points to as occluded within prescriptive work. It is often forgotten that Hayek (1952) acknowledged the specificity of embodied experience in what he called 'the sensory order'. More surprisingly, he was against exactly the kind of programmatic approach to knowledge we find in audit cultures (this was part of the 'road to serfdom' he identified in 1944) and very much in favour of the

⁴ Devine's account of Hayek and education on this point in full runs as follows -

Hayek's views on the superiority of markets have been widely applied, not least in the field of education, with results which he would have found deeply distasteful. On education Hayek was a classical liberal: he believed profoundly in the value of a liberal arts education, and would have resisted the notion of an education geared to the economy, both because of its inherent inadequacy as education, but also because the limitations of our knowledge make it impossible to educate students for a future we cannot know. This is evident in his spirited attack on the Ecole Polytechnique, and its belief that it was possible to know – and consequently engineer – all things. The Ecole Polytechnique, in Hayek's opinion is the real origin of socialism: its belief in the possibility of knowing enough to be able to alter human society he describes as 'hubris', the pride which challenges the gods. In similar vein, throughout his life he attacked 'scientism', again on the grounds of the extent of knowledge, particularly in the human sciences. It is these very limitations of human knowledge which, in Hayek's view make the market so important, because it creates, conveys and reveals information in a way no other human institution can emulate. Hayek intensely disliked the restricted form of knowledge taught at the Ecole Polytechnique – he mentions in particular the absence of Greek and other languages, history and literature – and its result:

...the technical specialist who was regarded as educated because he had passed through difficult schools but who had little or no knowledge of society, its life, growth, problems and its values, which only the study of history, literature and languages can give.' (Hayek:1952:110).

Presumably he would not be in favour then of the limitation of education to the vocational and commercially vogue subjects which is too often the logical outcome of the application of market principles to education. Indeed, genealogically, the notion of human capital, which underlies much of the pressure on schools to become training grounds for the economy, derives from Hayek's associate Ludwig von Mises' views, and conflicts directly with Hayek's suspicion of rationality, planning, and predictability.

liberal arts that are often the first victims of programmatic approaches. The contradictions involved in these earlier moments of neoliberalism - their mobilization (in Stengers precise term, meaning the way in which ‘scientific research is dominated by the ideals of competition, polemical rivalry, sacrificial commitment to an abstract cause’ as a ‘form of organization’ [11]⁵) almost completely explain the contemporary contradictions within the practices of neoliberalism within education⁶. Stengers writes of mobilization (in contrast to her own approach).

What I am proposing puts the emphasis on the event, the risk, the proliferation of practices. What rational medicine requires, for example, grounds on the past the promise of the reducibility of what, for the moment, poses an obstacle to it ... It constitutes in this sense a mobilizing model, which maintains order in the ranks of researchers, inspires confidence in them with regard to the future they are struggling towards, and arms them against what would otherwise disperse their efforts or lead them to doubt the well-foundedness of their enterprise. (114-115)

This well-foundedness leads to contradictions - as described by Dejours in terms of suffering, or here by Stengers as between a mobilization via reductionism, and a proliferation of practices (in education, via new groups of students, new technologies, new fields of research, inter and transdisciplinarity, not to mention the real market itself [that is, not the imaginary market of neoliberal fantasies]). As neoliberalism mobilizes within education, it finds itself caught in contradictions between different kinds of reducibility. For example, on the one hand there is a programmatic service to the (imagined) economy. On the other hand, there is the constant demand, especially among neoliberal politicians, for a return to the restricted notions of “literature, history, etc” all of which, according to programmatic service to the economy, have been constantly underfunded. More recently, these contradictions are found surrounding “outcomes-based

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⁶ An obvious point here concerns the political and philosophical contradictions often noted within the American Right - specifically between Christian fundamentalists and neoliberals. However, the neoliberals have their own internal inconsistencies.

education”⁷. Whatever its vices virtues, the latter is ironically based on the cognitivism that is so important to the neoliberal cause.

Ultimately all such contradictions perhaps reflect the inherent philosophical conflicts within liberalism concerning liberal democracy and control (see Adam Curtis here). Or at least, we might say, with Dejours, that individualism -

... can raise serious questions of technical management. What would happen if everyone worked intelligently in his or her own way, according to their own tastes, genius or cleverness? Individual intelligence can in fact make quite different inroads into personal know-how, skills, and techniques.

It is here, for Dejours, that what he calls ‘actual cooperation’ (in its best form, what Christoph Spher has called ‘free cooperation’) comes into play, as opposed to ‘prescriptive coordination’.

This is indeed a technical question. I shall shortly suggest that audit is but one player in a complex new politics involved in a global technics of memory. I shall also suggest, despite the inherently destructive nature of predictive systems such as audit, that there are other more productive uses of technics. A reconsideration of the nature of media technics (technologies plus techniques) in particular is crucial to the politics of the new global technics of memory which audit tries to turn its way. Perhaps ironically, because outmoded forms of critique often misrecognise the contemporary nature of technical systems, and in part because, as Dejours points out, the problems involved might just be technical problems, potential technical solutions to some of these problems are as stymied by the new managerialism of audit as everything else. It is time that educational politics embraced some more open systems within educational processes, *including technical* open systems (Daignault, Web 2.0). This becomes a question of the potential for genuine techno-social innovation in the light of what Oblinger and Oblinger call ‘educating the net generation’.

That’s the preamble. I now want to turn to audit culture as a technical system, and then to some of the problems of cognitive models involved. In a postscript I shall argue for a new

⁷ The Christian Right in the US is particularly opposed to “outcomes-based” education. This was something recently picked up by John Howard in his own criticism of this, along with “postmodern political correctness”. Ironically, it was Benjamin Bloom’s departure from the script in outcomes-based learning that earned the ire of the Christian Right. Bloom’s work on a Taxonomy of Educational Objectives is foundational for educational theory and indeed arguably for audit and evaluation within the academy of all kinds. However, Bloom’s work is more complex than its subsequent reduction has allowed. In addition, he went on to develop “mastery learning”, which includes outcomes-based education - education in which students, in a truly liberal style, take the time to need to develop their activities in the direction of appropriate outcomes. For the right, this nurturing attention to individual students is not disciplining enough - in short, it is ironically too individualist. (see Berliner)

pluralism in thinking about thinking in the context of work, education, the academy, politics and culture.

In the following section I shall discuss audit culture as a reactive technics - a system that indeed forms a part of global mnemotechnics, if one of the more troubling aspects of it. The technics of audit culture is central to the less desirable attempts within contemporary education to respond to the challenge of the global technics of memory.

But before I address audit culture, I will take a brief step back to define technical systems in order to explain why I consider audit culture a technical system. I should state at the beginning that I include both technologies and techniques in technical systems. Peter Pels has described this expanded notion of technics well:

'technology' refers to a regulation of human practices that comes in a certain objectified form, as a set of objects (tools, machines, buildings), as a set of more or less explicit rules, as a ritual or an exemplar of conduct, or as a disciplinary apparatus (of course, technology usually combines two or more of these). (137)

So a global technics of memory includes many forms of mediation: tools such as screens and computer mice; machines such as computers and databases, or networked communications; explicit rules as found, for example, in university regulations, or audit cultures and culture audits; rituals as found in the same, or in the cultures of electronic music or art, or of contemporary pedagogy; disciplines such as media studies. It is lived, just to take one small example, in what has recently been called 'life caching' - an ongoing documentation of one's life moment by moment, perhaps in online databases, in images captured by one's mobile phone, in words, moods, in records of communications, credit card transactions and so on, all in the extraordinary detail made available by networked media technics. Memory in this context - considered both as primary and secondary retention, is severely interrupted and re-ordered by both recording and recalling media instances, on other words, by tertiary retentions.

NEW WARS OVER THE MIND

Audit is not the only technical system to impinge upon modern education. The modern education system is currently 'challenged-forth' by a proliferation of technical systems. This is a symptom of a broader series of technical challenges to thought - taken as the basis for who "we" think we are. In Bernard Stiegler's terms, there is a new 'war over typography' (media systems such from the typewriter to the computer) that is 'very much a war of minds'. Networked media technologies provide new and more radical variations on this war over 'typography' and these are radically transforming learning. Networks provide new assemblages of affect, of processes of perception, and of memory. These bring learning - and thinking/feeling in general - into a different world.

This is a profound *ecological* shift. Cognitive ecologies, media ecologies, ecologies of the self, the social, the environment, virtual and actual ecologies, ecologies of practice - all are swept up within the new networks. This is not to say that the old is simply swept away, but it mutates, it finds new relationships, it becomes somewhat unrecognisable. The older 'machinic phyla' in the evolution of technics - technical systems, and the disciplines, practices and modes of thought that accompany them, are re-assembled, mixed more radically, made more open to variation. As with the first industrial revolution at the core of modernity, now once again 'all that is solid melts into air' (as Marx famously put it). Brought into air, all that was solid enters into a new war of minds that often now literally takes place in the air. This new air changes the "earth" so beloved of Heidegger.

Like all wars, this new war of minds spreads across terrestrial and other borders, eradicating them as it passes, pulling apart sovereign territories even as it empowers them. Traditional institutions such as the modern university, never as in demand as before are also, as Bill Readings has noted, 'in ruins'. In the process learning and thinking find new freedoms, but also suffer new constraints. For example, there is now 'lifelong learning', but for many this is a burden, often economic, as much as a joy. More dramatically perhaps, the new technics throw such strong light on the processes of education that there is a kind of white out. We no longer quite completely recognise what learning is, despite the rush of contemporary definitions and practices surrounding it. I will suggest that the white out involved comes about, at least in part, because our models of mind, and the cultural uses to which these models are put, are shifting so dramatically. Audit culture is a destructive example of such shifts.

I shall now describe audit culture in detail, primarily via the excellent collection edited by Marilyn Strathern. I shall then attempt to broaden the ambit of the critique of audit – and define more close what is at stake – by contextualising audit within the global technics of memory or “mnemotechnics”. This term basically describes technologies broadly considered as media technologies that are applied or linked globally, thus bringing to bear what Steigler calls "tertiary retentions", that is, technical memory, on what we might have previously considered to be more natural human memory - *globally*. I shall then briefly attempt, in the spirit of Bruno Latour's critique of critique, to attempt to suggest a framework in which some solutions to these problems are already being found – from more recent cognitive science and the philosophy of cognitive science (Andy Clark etc), from neuroscience (Ramachandran), from the cultural and political theory addressing these issues (Massumi and the virtual, Connolly's neuropolitucs and radical philosophy) and from some educational theorists and practitioners themselves (Whitehead, Daignault, Miles).

We can now turn to the discussion of audit culture.

AUDITLAND (THE GENTLE INFORMERS)

'They are destined to decision, that is, to time understood in this sense, which is not that of life' (Stiegler, 2003b: 156)

'In a world where audit and accountability spell the further increase of the power of the languages of quantification and statistics, the best defence may be attack - an attack on the illusions of quantitative measures and models that have been devised in splendid isolation and are easily appropriated by the powers that be ...' (Pels: 165)

I will describe what I am calling "Auditland" via Anna Funder's *Stasiland*. *Stasiland* is a surprisingly compassionate portrait of East Germany before and after Stasi control. It would, of course, be unfair and inaccurate to compare universities in 2004 and the German Democratic Republic, pre 1989. Yet something about the structure of experience recounted in *Stasiland* did stir some faint echoes, for me at least. The GDR was country based upon a proliferation of informers. There was of course a massive technics in place designed to produce loyalty to the nation before the entry into globalisation - and the fall of the wall. This became a heady confusion of access to past, formerly inaccessible archives, and the imposition of global technics, after the fall of the wall. One notable case that Funder describes particularly interested me, that of an ex-Stasi worker who worked in community radio station. In this case, loyalty to the nation transformed itself after the fall of the wall into a fierce "loyalty to the [radio] station". Nothing could signify more accurately the mutation of national paranoid into global mnemotechnics.

Like *Stasiland*, *Auditland* is the paradigmatic description of a parasitic culture that threatens its host - 'audit culture' (Strathern, 2000b, see also Power). Vered Amit has asked, 'Why ... academicians and universities buy [the] bluff' of audit culture (222). *Stasiland* perhaps begins to answer this question [see also Gideon]. In the GDR people very often became informers out of fear, although for those who refused (one notably by calling the bluff in public at her workplace by announcing the attempt to recruit her) the file was usually simply closed, with no consequences. There are perhaps even fewer consequences for non-compliance in *Auditland* than in *Stasiland*, but the fear remains, if in a different "gentler", but therefore arguably more effective form. In short, fear can do its work even without punishment, although of course that does not stop an additional technics of punishment and reward from being deployed alongside it.

Of course, the "Auditland" I am posing is indeed a much softer place than *Stasiland* - with a much gentler process of information, performed by good people, who often mean well (or perhaps just as often do not even care about the processes involved one way or the other). However, if cultures such as *Stasiland* thankfully mutate into the much softer cultures such as *Auditland* within global technics, it is also true that by doing so they

extend their reach. However soft a landing, Auditland is a land where audit is increasingly gathered *by all people, about all people*.

In proposing this mutation of informing into information and evaluation, I am not aiming to accuse people of bad faith (or if I am I accuse myself as much as anyone else). Or, if we do act in bad faith, we can perhaps treat such bad faith sympathetically. I am, however, interested in structures of experience or what we might call "structural imaginings" involved, along with such things as the ecologies of affects such as fear in the technical mobilising of a new political climate (Massumi, 2004 points to fear in the context of the alert system of varying colours in the United States, and here also there be a kind of *differentiable, contextually adaptive* fear involved, a fear for all occasions, including many "softer" forms of fear). How has this new technics come about? One approach might be to ask how the phyla - or traceable systemic evolutions - of these structures have converged and diverged in specific contexts and machinic assemblages. Here we have cybernetics, cognitivism, media technologies, global networks, doses of authoritarian technics, the management of fear, the technics of order and disorder, the professionalisation of work, ethics and so on noted by Alfred Whitehead many years ago (Stengers, 1999), all converging into new technics, new ecologies⁸.

However, I shall leave aside this question of the evolution of audit culture for the moment, and instead discuss it as a particular 'cultural logic' (Shore and Wright: 83). In audit culture, supposedly self-responsible individuals are immersed in technical systems of audit, which allow them to self-assess, and to be assessed, on the basis of their (hopefully improving) performance. In audit culture, the external audit often only involves the internal auditing processes, that is, not the actual activities such as learning or research themselves. It might seem, therefore, that such culture "misses" the obvious targets.

Yet audit culture involves a 'control of control' (Power in Shore and Wright: 73). Such control is therefore both overarching and extremely flexible - unified and infinitely divisible and adaptable. It leads to lower level controls that, like the fear discussed above, are able to differentiate and populate multiple, shifting contexts. The macro level of audit leads to a proliferation of internal auditing processes (that is, technical systems) at both macro and micro levels. These sweep both audit subjects and all activities into the ambit of audit. This sweep subsequently promotes simplistic modes of analysis, their use as predictive and evaluative models (often in a self-fulfilling manner). It also allows for the assumption, indeed production, of cognitive "principles" (such as "cognitive load" or even just "interest") constructed by questionnaires for example, or "objects" (such as "skills"). It thus allows for the evaluation of "products" within the commercial environment of the cognitive industries. Students, teachers and researchers are seen, in an

⁸ [Material on Bloom and communication between examiners – not teachers or students – as basis for it all - + Curtis etc]

obviously ingenuous manner, as evaluative agents within this process - that is, neo-liberal subjects capable, indeed desirous, of understanding and evaluating named (that is, reified) cognitive processes. Crucially (in what in fact escapes the subtlety of some neoliberal philosophy in a return to straight liberalism), all are seen as rational, not affective, evaluators. It is not a question of the more complex movement of the world against one's body, but one of often reductive judgment. The question is not one of how one feels about things - but of how one assesses the net cognitive gain. (This should be no surprise in some ways as audit culture has one foot firmly planted in the profession of accounting.) Furthermore, the answers to the question of net cognitive gain must be able to feed back into a network of symbolic processing and logics that in their entirety make up audit culture, and in fact, insert audit culture into broader global networks.

I shall briefly sum up the salient points of detail regarding audit culture from Marilyn Strathern's edited collection (2000b). It neatly summarises the conjunction of: a kind of cognitivism, market logics, the simultaneous fulfilment and shift away from modernist culture, and a concerted (if ultimately futile) movement against specific, emergent cultures and events (including at times some of those inhabiting the new potentials of network ecologies). It shall become clear that audit culture is *not* directed towards in situ improvements of "productivity", as is often claimed. It is instead directed towards a retrograde technics regulating deviant forms of specific variation. Audit brings these back into the fold of audit, in which variation is only tolerated in terms of the production of measured and reductive value tied in some way to the economy. Or rather, variation is not necessarily tied to the economy per se, but to the *concept* of the economy that inhabits audit via the collective neoliberal hallucination of how the world should be. Above all, audit moves in favour of the reduction of modes of living to the *abstract* generalisation of "productive work", *now increasing determined as cognitive labour*. As the market itself becomes more abstract, so this cognitive labour - in a general system of "measures" with accompanying punishments and rewards (the relation to Cognitive Behavioural Therapy is obvious) - is brought into the abstract market. This is a market that cares little about specific events, so long as they generate (or seem to generate) Capital within the folds of abstraction for the time being (and regardless of the future). Ironically cognitive labour is that which must submit itself to a regulation of ideas and cognitive procedures, precisely so as to avoid "original thoughts", "unusual conjunctions" of concepts or practices, or "cognitive events". Cognitive labour also must avoid disrupting the flow of audit regulation - and it must not provide points of departure from the system of global mnemotechnics, as it is played out within audit culture.

As such, audit culture tends to play out global technics *against* their potential - against their practical potential in terms of unusual conjunctions of concepts and practices, or cognitive events. It is notable that sociable (Web 2.0) media, even with their new collective forms of evaluation, challenge audit in precisely these respects. The persistence and reductionism of audit is quite remarkable considering the current technical climate of technics, and is perhaps explained in part by the crucial role played by the continuing

fable of individual judgment and agency in the technics of audit culture. Despite this fable, of course, although audit culture promises autonomy, this is 'only allowed certain prescribed forms of expression' (Strathern, 2000c: 8).

In sum, with audit, life is therefore not only reduced to work within a certain concept and mobilization of technics, but to *cognitive* work, and to a reduced level of cognitive work at that. This all hinges on redundant theories (what Guattari calls metamodels) of cognition that tend to resist more contemporary concepts of embodied mind. The latter, travelling in the exact opposite direction to cognitivism and audit cultures, would return cognition to life, to the world at large, and ironically to a better understanding of technics within processes of thought.

Such a return to an open world is not favoured within audit culture. The a priori, and what we shall see Stiegler calls the 'pseudo a priori' rule. As Strathern puts it, in what I am calling Auditland, "their" 'intervention has already taken place' (2000c: 4), an intervention 'tied to the language and logic of a priori systems' (Giri: 174). This is an intervention in which money and morals come together (Strathern, 2000c: 1), in a relation protected by 'the prophylactic nature of ethics and methodologies' (Pels: 156). At last, this provides 'quasi-market mechanisms for those parts of the public service that could not be privatized' (Shore and Wright: 65). Not only is there a heightened possibility of 'censorship and prescription' (Amit: 227), but this censorship and prescription can work retroactively.

Here, however, there is a simultaneous erosion of the liberal fable of individual autonomy and of the neoliberal fable of the emergence of self-organization as found in market forces. In audit, the liberal fable of individual judgment and agency pushes the logic of individual accountability to the point where the individual is almost entirely subsumed within the abstract counter-logic of the technical system. This would seem to be the triumph of a priori systems. At first glance, this seems not to be the case. The logic of a priori systems is extended to the point of a collapse of this logic, in that the tyranny of audit systems often seems to provide no match to that for which they are supposed to be a priori (so that, for Dejours, 'working thus means bridging the gap between the prescriptive and concrete reality'). There is, despite the collapse of both liberal and neoliberal fables, a corresponding and paradoxical increase in audit's 'a priori' power. This is not at the level of fables, fantasies or even concepts. It is purely technical (or perhaps techno-social), and it is this that explains audit's technical persistence⁹ in the face of the twin failures of both liberalism and neoliberalism. In fact, it may be that audit and related processes of prescriptive outcomes and systems are in the end as destructive of neoliberalism as they are of everything else. What this reveals is the way that

⁹ It is worthwhile here remembering Nesta Devine's comments concerning 'the *machinery* he [Hayek] set up to spread neo-liberal conceptions of economics, politics and government' (my emphasis), as opposed to the conceptions themselves.

neoliberalism, in borrowing cognitive models from the early moments of cognitive psychology in order to justify its own conceptions of an economic society, has perhaps been parasitically used by these cognitive models for their own proliferation. It is necessary to understand the technics of audit here precisely as based on a certain set of models of cognition.

The technics of audit extends the logic of (symbolically processed) outcomes and so on into a kind of non-linear interference in events - in short, events are converted into symbols, regulated and processed before, during and after their occurrence. They are often, for example, assessed retrospectively by audit - which is to say that they are re-written retrospectively. Just as often, events are anticipated by processes of regulation (a distribution curve, for example, or key performance indicators). In short, audit systems can at times work *a posteriori* - but they usually do this wearing the mask of the *a priori* (in accordance with what "should have been from the beginning"). Here the *a priori* increases its power by becoming a kind of *pseudo a priori* (Stiegler, 2003a), a technical prosthetic system that comes after (though perhaps not only then) in order to regulate what comes before. There is an attempt, often after the fact, to control the 'unpredictable [that] may be a matter of past as well as forward referencing' (Strathern, 2000a: 286). Even if genuinely *a priori*, as Stiegler puts it, we are confronted with the fact that the technical prosthesis might come before that which it is supposed to supplement. Both sides of this can be seen as an amplification of the logic of the *a priori*, as determinative of events from outside of actual experience (this is the *technical* basis for the suffering of work described by Dejours).

In amplifying this *a priori* logic technically, audit systems amplify one of the main strengths of the global technics of memory - their ability to intervene in events, event in the event of human short term memory - in process, before during and after their occurrence. Ironically, however, audit ignores the extent to which the global technics of memory effectively - indeed technically - deconstruct the *a priori*. The dynamic complexity of global media (by which of course I mean not just "Fox news" but more democratic media forms involved in sociable media such as blogs, real-time video over the Net, etc), ironically its ability to self-organise and then re-self-organise, its networked (not linear) nature, all these disrupt the entire logic of the *a priori* (of the "progress" according to standards by which audit will lead to improvement, for example). This "deconstruction" is profound. In general terms, Stiegler describes the situation as follows.

The techno-logical synthesis of tertiary retention supersedes the syntheses of consciousness. This fourth level of synthesis, by conditioning the synthesis of recognition, supports and articulates, at the same time, all the other three levels of syntheses of consciousness [Kant's understanding, imagination and reason]. It may thus be called the 'retention of synthesis', in the same sense that the artificial reproduction of a prosthesis can be called *synthetic*. Even though this may go against traditional thinking, one could thus speak of an *a priori* prosthetics. *A*

priori synthetic judgement would be supported by an '*a priori*' prosthetic synthesis - an '*a priori*' which nevertheless has to remain in inverted commas because, upon closer inspection, the *a priori* of synthetic judgement of consciousness takes place after the event [*après-coup*], after a prosthetic synthesis, and thus *a posteriori* (empirically, it pre-cedes this consciousness in time as the possibility of its already-there). But at the same time it also partakes in the *a priori* of the synthesis of judgement that it only makes possible - in a somewhat mythical, performative and foundational *après-coup* - and which, *in being a precondition for any possible experience based on recognition, is 'transcendental', even though it only exists under the a posteriori conditions imposed by the history of technical inventions*. I therefore call this situation '*a-transcendental*'. (2003a)

This explains the paradoxes of individuality discussed above, as 'the understanding that leads to digitalisation is the interiorisation of an operation that consists, first of all, in a mobility of external meaning that is synchronised with internal meaning'. This in a highly dynamic context.

Arguably, the power of audit is directly against the recognition of this dynamic context, or more simply of the nature of global media, even as audit borrows from it, inhabits it, brings it to bear upon cognitive practices, from work to education to relationships. For audit the aim is obviously, that only 'certain social practices', recognisable social practices, and not others, count, or are literally counted (Strathern, 2000c: 1). Again, as an *a priori* (or *pseudo a priori*) form of control, audit cannot afford to 'recognize emergent forms of creative accountability' (Giri: 174).

"Ethics", in this context, becomes simultaneously a question of systemic risk-aversion and the professionalisation of researchers (which is what everyone becomes) in the sense that they become neo-liberal subjects whose professionalism is a guarantee of minimum responsibility beyond their professional activity (Pels). Ethics indicates a dubious series of practices within Auditland, as the much enhanced 'ethics talk' one finds within audit culture 'often conceals political strategy' (Strathern, 2000c: 10).

It should be clear now why, far from addressing questions of trust, audit often 'creates the very mistrust it meant to address' (Shore and Wright: 77). This is in part because audit is actually 'intended to be stressful'. However, this stress is not necessarily productive in the sense promised by the promoters of audit culture. For a start, when stressed, people tend to 'feign ... certain properties' (Maturana in Giri: 173). Worse, both this stress and the strange environment created by the crossfire of feigned properties tend to wipe out 'the commitment and loyalty of individuals to their organization' (Shore and Wright: 79). What is left is a series of new forms of subject - made up of variations on 'self-managing individuals' (57). These individuals not only 'render themselves auditable' but marketable (of course the two go together). Thus audit leads, for example, to 'grant proposals as a

technology of producing a marketable self' (Pels: 146), a marketable self under conditions of 'increased pressure to perform, reduced autonomy [and] responsibility without power' (Shore and Wright: 70).

What if audit itself were audited? Although the audit of audit is precisely the point, it is perhaps surprising how often the reach of audit falls short of an audit of its own effect upon performance, let alone other cultural effects (audit also tends not to work its way very high up hierarchies - at least in Australian universities). Yet Shore and Wright write that there is 'growing evidence that audits fail to deliver their claimed benefits' (81). This makes sense in that audit is not concerned directly with productivity *in situ*, so much as what could be seen as a more general strategy of productivity in which certain actual situations (teaching a particular class for example, undertaking some valuable research) are sacrificed to the "greater good" (the audited reputation of the university, for example). In short, audit culture is not about real productivity in situ so much as an intervention in the concepts and practices of modes of living via new forms of subjectivity.

According to Strathern, this means that we should have 'no surprise that "auditors" can be shown to be "us"' (Strathern, 2000a: 290), although we often perhaps think of ourselves this way only reluctantly, and only exceptionally (that is, we have no alternative but to participate in, think via, live our working life through, audit). The challenge becomes one of 'how to deal with challenges that are at once obstructive, destructive even, *and vitalizing*' (Strathern, 2000c: 14).

In sum, audit culture is a reactive technical system developed in response to the proliferation of cognitive and technical innovations within education (and of course elsewhere). It attempts to homogenise, provide calculable standards, pre-determine outcomes (at micro and macro levels), and to bring all activity into a universal, and at the same time, differentiable, system of values. Of course, most of these values, such as "excellence" - but significantly not those of economic rationalisation and the capitalisation of activities - are without meaning (Readings). That is they are without meaning except in so far as they bring audit culture to bear on all activity.

Audit culture also *professionalises* cultures - but precisely and increasingly in terms of a specific kind of expertise - *audit expertise*, often to the detriment of other forms of professionalism or expertise. In fact, deviation, heterogenesis, and even many forms of technical innovation, expert or otherwise, falling outside the ambit of audit, are devalued to the point of being discouraged. Rather, what is encouraged are what Whitehead calls 'minds in a groove', and not just any groove but the groove of evaluation. As such audit is an extension of the assessments systems of the past, a predictable if unfortunate one. It could be seen as an attempt to conserve the familiar modern technics of assessment while building a radical new technics - increasingly a large part of the global technics of memory - via which to preserve modern forms of professional judgement. As Whitehead

(who it seems to me influenced Hayek's theory of experience and perception, and who Hayek loved to quote on habit¹⁰) wrote,

The dangers arising from this aspect of professionalism are great, particularly in our democratic societies. The directive force of reason is weakened. The leading intellects lack balance. They see this set of circumstances, or that set; but not both sets together. The task of coordination is left to those who lack either the force or the character to succeed in some definite career (in Stengers, 1999).

In many ways audit culture merely expands the sad undermining of education via assessment that permeated the entire education system long ago. Again Whitehead drew attention to this, writing that, 'A common external examination system is fatal to education', and that, 'no system of external tests which aims primarily at examining individual scholars can result in anything but educational waste'.

Indeed, students have lived in audit culture for perhaps hundreds of years, or at least its ancestors (perhaps it is no longer Bentham's prison that is the basis for social machines but the school). At the same time, the current expansion and development of audit cultures is not merely beyond the assessment of students, but into a network that increasingly immerses one in a series of global economies. These are economies of Capital, obviously, but also related economies of cognition (of attention and distraction, of the production of ideas, of models and assumptions about cognition themselves) and ultimately, if covertly, of affect (of fears, as above, of desires, of what it is that will or will not, simply put, affect the system, and how alternative networks of affect might be modulated in relation to the global technical systems [Massumi, 2004]). It is at this point that we can see how audit culture is a very good example of Stiegler's 'planetary industrialised mnemotechnical system of retention' - albeit in a reactive mode.

There are of course many responses to such challenges provided by the more reactive modes of the 'planetary industrialised mnemotechnical system of retention'. Many of these involve tweaking the technics involved. Foucault, for example, famously talks about the technologies of the self. This is useful but perhaps too narrow a response by itself. The question of subjectivity is extremely important, especially as raised by both Dejours and Guattari, but there are other questions that the question of subjectivity depends upon in turn, particularly in relation to technics. A simple response might be to re-focus on the question of design, both in terms of a more critical analysis of the role that *design* plays (the design of spaces, of interfaces, of software, of social relations, and of the self, and of course of educational technics) in assisting or meeting the challenge of the new technics. Another important response is perhaps a larger consideration of the foundational *transformation* of media technologies involved, precisely into a technics

¹⁰ Hayek quotes Whitehead on the following, 'civilization advances by extending the number of important operations which we can perform without thinking about them' (Hayek, 1945: 221)

capable of more specific, more contingent and context-specific engagements. In the global technics of memory, "media" flatten into one very lively, *highly differentiated and differentiating* plane of immanence Guattari called 'post-media'¹¹, a plane that has the character of what I would call *differential media* (without wanting to start a movement) (Murphie, 2003).

Contemporary educational theory - and, although this is unlikely, neoliberal forms of governmentality - can perhaps learn more than they have from contemporary media studies. As a consequence of the global technics of memory, contemporary media studies has a lot to give many areas of what use to be "non-media" activity (such as education theory), as all technics undergoes the convergence with media technics. Yet more traditional accounts of media in turn can learn more than they have from the newer cultures and technics that are attempting to meet the differential challenges of the new media technics without reducing them to cultures such as those of audit. These more interesting cultures engaged with the new technics would include the cultures of electronic arts and electronic music (Murphie, 2003). Understandings drawn from these more "technics aware" cultures are now central to the challenges of differential media, certainly as central as understandings drawn from the more mainstream (broadcast) media cultures of the recent past. Educational technics - posed outside of audit culture - in particular could also be seen as enabling a *participatory differential* experience that does not have to be the disembodied experience of symbolic processing, but that of affect and situated knowledges, rather than the professionalisation and rationalisation of audit. Thus, for example, lecturing could become a form of VJ-ing rather than the "clear exposition of concepts" or the demonstration of learning modules or learning objects. Or, learning objects could themselves become more dynamic in an open source environment (Woo). All this leads to what Mat Wall-Smith calls 'knowledge improvisation' (in personal conversation). At such moments, we would be living in a very different culture to that of the reign of the audit. This might be a culture broader than that of learning but one in which learning is always going to be a crucial element.

¹¹ Guattari comments that this is not a matter, as in audit, of 'the exactitude of facts, but that of the significance of a problem, of the consistency of a universe of values. The current crisis of the media and the opening up of a post-media era are the symptoms of a much more profound crisis' (1996:266). Here Guattari also gives an interesting series on the information theory so closely aligned with cognitivism and audit culture (also with Dejours' understanding of prescriptive systems and Hayek's somewhat failed attempt, along with other neoliberals, to shift from an "objective" knower or agent within economics, to a "subjective").

The suggestive power of the theory of information has contributed to masking the importance of the enunciative dimension of communication. It leads us to forget that a message must be received, and not just transmitted, in order to have meaning. Information cannot be reduced to its objective manifestations: it is, essentially, the production of subjectivity, the becoming-consistent of incorporeal universes. These last aspects cannot be reduced to an analysis in terms of improbability and calculated on the basis of binary choices. The truth of information refers to an existential event occurring in those who receive it...

COGNITIVE SECURITY

In order to understand the shift in (and mix of) models of mind involved in Auditland, it has been first necessary to put aside the truth (or dubious nature) of cognitive theories. I have instead focussed on their cultural uses and effects - the work they do as models for a response to the uncertainties of the new networks. When one considers these cultural uses and effects, there is cause for concern. New theories of cognition, new forms of manipulation of cognitive processes, and new ambiguities concerning cognitive property are coming together into uncertain constellations within the network societies. We could say that a politics of affect in the face of these constellations is perhaps the crucial component in the new war of minds. This is not, of course, just a question of minds. This question is situated in a broader series of anxieties about life - life perhaps registered as the experience as 'my very own thought', 'my very own brain', along with 'my very own sensations', 'my very own body'.

Much cultural activity with regard to the new networks can be taken as symptomatic of the reformation of cognitive milieus and the anxieties that move through them (as noted by Guattari - see footnote 11). In this respect, audit culture is just one symptom among others. Just to take one other obvious example, there is the intensity of the recent and ongoing IP/copyright battles in a diverse range of areas, notably in music, publishing, films, biotechnology and so on, but also over the proprietary control of 'learning objects' in educational contexts (Woo, 2003). Although such battles are often portrayed as battles over individual (or corporate) rights, creativity or the ability to earn a living, this only masks a much larger war.

This larger war is being fought over competing models of technical and affective re-distribution. Researchers, teachers and students are pre-sutured into this matrix of redistribution in large part by the shifting forms of audit in which they are immersed.

In reactive mode, this is not a redistribution that has much to do with self-improvement, community development or in fact anything to do with the individual or community as we think about them traditionally, or if it does, it does very much secondarily. There are *supposed* gains for individuals in areas such as IP via new forms of legislation that extend IP in various ways, or, the facilitation of educational performance through performance reviews and a culture of audit. I have argued, however, that such "gains" are often losses for both individual and community. Crucially, they tend to undermine "cognitive security" within the formations of power of the new network societies. This loss of security is played out at the micro level throughout the cultures of the networks, and promotes a further loss of security via subjective investment in these cultures at their most reactionary. In short, this loss of security arises via a series of events as insidious as any other attack on security in the name of 'security', to the point that there is now a

centre for cognitive liberty and ethics online (<<http://www.cognitiveliberty.org/index.html>>).

The real aims of the redistribution (in its reactive mode - I have begun to suggest alternative possibilities above) I have been discussing, then, are several. These are the final accomplishment of the colonisation of cognition (the unconscious) that Fredric Jameson pointed to long ago, the reduction of forms of life to work (Paulo Virno), and the installation of societies of control (Gilles Deleuze) at the level of the fundamental processes of *cognitive attention, distraction and performance*. More than this perhaps, as I suggest above, the aim is *the colonisation of potential in general in all these areas, before it is actualised* (Virno: 82, see also Massumi, 2002; 2004). If the enhanced control of life is an aim for this redistribution, this is an aim directed towards control of the pre-vital, so that the life that *shall* be lived shall be lived within an appropriate range of distributions. As such, these events signify attempts to resolve some of the ambivalences presented to power by network societies. These ambivalences involve: the distribution of affect via new media (John Scannell); the new mine fields of affective determination (the "engineering of experience" - Erik Davis) and affective (virtual) indetermination (Brian Massumi, 2002); the regulation of affective milieu beyond the only partly efficient process of contemporary governmentality (Sean Watson). All of these ambivalences are played out within pedagogical contexts.

A NEW COPERNICAN REVOLUTION?

We know all this - and yet the problem is that, as Stiegler suggests, precisely with regard to education, "we" cannot "know" it in the way "we" used to think we could "know things" (that is, according to *modern* concepts of mind and the individuals and cultures they might have assisted in producing). Even neoliberalism, in its shift from the objective, all-knowing rational agent to the subjective, limited agent, acknowledged this. As I have suggested elsewhere (2005b), the modern is now lurching off its rails to some degree, and the questions of how we know things, and how we come to know things, are lurching off the rails to the same degree. Given that Kant is often seen as the founder of the very concepts of cognition fundamental within cognitivist models to this day, it is perhaps worthwhile briefly reconsidering the Kantian in the light of the end of the modern.

To put this another way, if it was Kant who was a major figure in the foundation of both the modern university, and the very idea of the modern itself, and if, despite all the cultural benefits of Kantianism, audit culture is another end result, then a new "post-Kantian" approach is required. This would be one that, with Dejours and Guattari, acknowledges the new configurations of possible and actual experience within network ecologies. In the light of the prevalence of networked, technical forms of memory, and technical interventions in experience, this post-Kantian approach would learn from Kant (and even Hayek) not to over-determine what we can know about experience. Yet, open

to technical networks, it would not under-determine, as perhaps Kant does, what we *can* know about this experience. It would also question the posing of a radical difference between an interiorised (modern) subject and the world (here including much of networked technics). Such an approach would require a reassembly of Kant, along with the many Kantian impulses.

In short, this post-Kantianism involves *the syntheses of a mind more open to world and technics*. It means a partial reversal of Kant's 'Copernican revolution' in the light of the diminishing of the centrality of the modern subject to its own experience (in favour of networked technics). This post-Kantianism would also involve a radically re-working of the notions of *a priori* and *a posteriori*, of that which is assumed to come before and after experience (with obvious ramifications for the consideration of such seemingly trivial technical procedures as the defining of "learning outcomes" or Key performance indicators). It would involve a more contingent and immanent set of relations, often temporally non-linear, between the forms of possible experience and real experience (Smith) (as these are increasingly mediated by technics). This would also of course, be a post-Kantian approach that acknowledged, in Bruno Latour's terms, that 'we have never been modern'.

The challenge within this post-Kantian approach lies then, not in the realisation that the world is significantly (though not of course totally) changed, but in our ability to rework basic cultural practices such as teaching and learning. cognitive models and work practices, in accord with these changes. In some ways we are given a simple choice, but one which we must face again each day. We can work within the new ecologies that constantly remix the old and the new in an accelerating manner - at the points where these new ecologies are differentiating *in their ongoing way*. Or, we can succumb, as is more often the case, to twin temptations - both equally dangerous, and often found in a powerful mix. The first of these temptations is to re-formulate the new in terms of the familiar (the reductive cognitivist approach to education, the insistence on measurable and pre-given outcomes, the entire web of quantification that is engulfing education). The second is to radically deny any persistence of the old - as the durational fount of variation and differentiation - and claim that, although the world has taken leave of its senses, we must rush to keep up with it (thus the urgency always of re-structuring the university, the department and so on). Nonsensically but often effectively combined, these temptations merge to tempt us with something paradoxical. Radical, new action - usually along with usually radical new systems of technical control - seem to be the unavoidable consequences if we are to "conserve" what is familiar to us. It is exactly this combination that lies at the heart of conservative approaches to education (and technology) in many parts of the world - all of which become Auditland.

It is not only in education that such new conservatisms are found. Obvious examples beyond those in education are those such as the Strategic Defence Initiative for a missile "shield" within the military, the sacrifice of democracy and civil rights in the "war on

terror", the new technical systems of security in the wake of September 11, the rejection of refugees as a threat to established orders, or the attempt to use new technologies, new forms of international relations such as Trade Deals, and legal systems to protect Intellectual Property (to stop the future getting away from its "owners", we could say). Yet there are just as many less obvious examples, such as the audit culture and risk-managing ethics procedures within universities that I have discussed at length. All these examples demonstrate that there is a crisis brought about by 'the transformation of the technical system into a planetary industrialised mnemotechnical system of retention' (Stiegler, 2003a). By definition, this crisis comes to us via circuits that envelope much more than the milieu of contemporary education. Indeed, it is precisely this "more than" that challenges contemporary education.

The challenges within contemporary education then, as always, indicate a deeper challenge. In its contemporary form this is the challenge to the concepts and practices of much modernity - to the modes of thinking and living that modernity has provided.

At the same time, Stiegler (2003a) suggests that education systems play a specific role in the challenge to modernity. He sees the modern education system, from the nineteenth century on, as a particular kind of machine. This is a machine constructed in part from seventeenth and eighteenth century ideas such as Kant's ("reason" - and the reasoning human - would be one obvious concept). This is a specifically modern machine, made to *produce* (effectively and practically, if ultimately illusorily) *modern consciousness*. It is 'device for internalising the prostheses that form the history of knowledge and of the "we"'. If this modern educational machine is now faltering, it takes with it the process of internalising the prostheses of modernity (this includes the internalisation of the very concepts that make modernity work in practice). Thus Stiegler suggests that the transformation of the modern education system breaks with Kant, with Rousseau, with modernity in a profoundly practical (that is, *technical*) manner. It thus challenges the formation of modern "consciousness" itself, 'understood as universal consciousness distinct from national histories'. Education, then, is a major point of relay for this move beyond the modern, one that sweeps us up into the new network ecologies of global mnemotechnics. Within such relays, the substantive concepts and practices of either the "I" or the "we", which provided the reference points for modern consciousness, are no longer provided. Or, if they are, it is only secondarily, transitorily and in the light of the massive intervention of technical systems.

Where does this leave the individual? Individual consciousness within modernity - along perhaps with the very possibility of "individual cognition" - has always been mixed in with the contexts and prostheses of the broad modern "we". As Stiegler (2004) might say, the modern "I" and the "we" are mutually creative, co-evolving (so that we can consider ourselves, individually, part of a general project of modernity). They exist in a transductive relation. This of course means that the challenge to the formation of modern consciousness is also a challenge to individual consciousness as we have internalised it

for some time (and perhaps a challenge to the very concept and practices of "consciousness", if we can consider this a specifically modern concept and series of practices). In short, as the modern educational machine falters, so does its contribution to the *particular* confusion of individual cognition and a 'universal consciousness' that provided the basis of the modern individual (and of audit culture). This applies across a range of modern forms of individualism in relation to universal consciousness, whether liberal, utilitarian or romantic, at times the Freudian, perhaps that of the cognitive sciences (the individual "thinking brain" processing universal "symbols", for example, could be seen as a modern construct). At the same time, these concepts of individuality and the universal lie at the root of most modern educational theories.

Of course, the faltering of this particular, productive confusion of individual and universal "consciousness" is not necessarily the end of all possibilities of individuality or community. It does, however, suggest a radical shift in the ecologies in which *individuation* (now conceived more specifically, more pragmatically, and more processually) takes place. We could say that, despite audit culture's attempt to turn global mnemotechnics towards predictive systems, within the 'planetary industrialised mnemotechnical system of retention' a series of new - and particular - confusions of the individual and the general form and *uniform with rapidity*. Quite possibly, freed from modern configurations of universal consciousness, these new confusions (individuations) are more open to immanent participation (or tweaking) by those who are individuating.

To think this through technically, we could say that individuations after the (partial) collapse of modernity are more open to *modulation* than they once were. Modulation is meant precisely in the technical sense. We can use variations in 'the amplitude, frequency, or phase of (a carrier wave or a light wave) for the transmission of intelligence (as by radio)' or a variation in 'the velocity of electrons in an electron beam', in order or 'to pass gradually from one state to another' (Merriam-Webster Online - <<http://www.m-w.com/>>). No longer over-determined by modernity, modulation becomes the means of an ongoing transduction of relations, assisted by network ecologies and the global technics of memory. Within such graduations of change, things are never completely formed or unformed. This ongoing modulation is the non-binary, conceptually analogue, forgotten but important twin of the digital revolution, much like synthesis is the forgotten twin to analysis, or differential and integral calculus are the forgotten cousins of binary code. Modulation, synthesis and differential or integral operations form crucial parts of global mnemotechnical systems (although at times as a new "repressed"?).

This is where I would situate a contemporary politics of education - within the shadow of the challenges of control, analysis, critique, modulation, synthesis, transduction, individuation, differentiation and integration. In order to begin to sketch this contemporary politics I have followed Steigler's account of the challenges a contemporary techno-materialism provides to basic Kantian notions that still inform education (in particular the university), democracy, our models of cognition and

managerial/political processes such as audit. With regards to the latter, we have seen that techno-materialism can even challenge some recent technocratic modes of education, responses that are often promoted as cutting edge and, worse perhaps, as unavoidable in the climate of the new technics (other examples, aside from audit culture, might include many of the closed, proprietary, or semi-closed educational systems such as WebCT, or the restricted notion of networks that aim to enforce established autocracies - a full list would be very long). I would hope that these questions would open onto an alternative to a new technocracy, a plane of possibility in which the new technics becomes the engine for enhanced forms of - and a better understanding of - the relationality that has always been at the heart of pedagogy.

Yet, to get to this question of relationality within the new networks, we may have to overcome the anxiety that sometimes fuels technocratic attempts at security (especially those of "cognitive security"). Or, as Isabelle Stengers writes, we may need not to disclaim the anxiety of which we are the children (2002b). This is not just anxiety about the fall of the modern, or of the abstract concept of the mind in general, though this is bad enough. Worse, and more pragmatically, we are anxious about our "very own minds" and the lack of a 'universal consciousness' with which to productively confuse our "very own minds". To echo Kant's three syntheses, in everyday life it is easy to become anxious about both our very own and a universal understanding, both our very own and a universal imagination, both our very own and a universal reason. Not only that, but we are anxious about the basis for our forms of memory - individual and collective. In Husserl's terms, there is anxiety about both our very own and a general "primary retention" (that which enables us to find the "flow" in attention from one moment to the next, that which allows the past to pass in the present and still remain with us, that which perhaps keeps "culture" together over time). There is anxiety about our very own and a general "secondary retention" (our personal recollection, or a universal "cultural memory", that is, that which we normally think of as memory). A different kind of anxiety perhaps is caused by the increased role of what Stiegler calls throughout his work 'tertiary retentions' - technical memory - that are causing all the trouble, conceptually and practically, for primary and secondary forms of retention. All in all, it is not only the modern education system, or even the possibility of individuation cognition that seem challenged, but the very building blocks of experience. So it is not just a matter of rebuilding educational theory. It is a matter of rebuilding the building blocks from which we in turn build educational theory and practice.

Like all anxieties, these are anxieties that many have been anxious to evade. This has two outcomes, related to the two temptations mentioned previously. The first is a disavowal of the technical, of the results of the technical, such as globalisation, of the magnitude of social change, of the collapse of many basic assumptions of understanding, imagination and reason, of the challenge to the conditions of experience, and of new philosophies or practices involved in the new technics. The second is, only somewhat paradoxically, a rush to technical systems themselves for reassurance, normally technical systems framed

as a means of corralling the practices and ideas that are getting away (here examples, aside from audit culture, could again be drawn from the struggles over IP, the persistence of moribund understandings of cognition in the face of contemporary research into cognition and the neurosciences, educational models often derived from these moribund understandings, the monolithic approach to the war on terror, to drugs in sport, and so on).

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