

**RE-INVENTING INVENTION. The Generalization of Outsourcing and Other New  
Forms of Efficacy under Globalization.**

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## **Abstract**

**This paper argues that a shift is taking place in the fabric of capitalism as a result of a change in how the business of invention is understood. Using theoretical approaches that rely on the notion that capitalism increasingly tries to draw in the whole intellect, in the first part of the paper I argue that the new understanding of innovation currently shows up in six ways: as the mobilization of forethought, as the co-creation of commodities with consumers, as the deepening of the lure of the commodity, as new uses of information technology, as the construction of different kinds of apparently more innovative space, and as the application of interaction design. The second part of the paper then argues that these disclosures are leading to new forms of value. There is a brief conclusion.**

**Key words: Knowledge, invention, intellect, space, value, commodity.**

**'The functioning of the economy of qualities involves the establishment of forms of organization that facilitate the intensification of collaboration of supply and demand in a way that enables consumers to participate actively in the qualification of products. The establishment of distributed cognition devices, intended to organize real life experiments as preferences, tends to blur habitual distinctions between production, distribution and consumption. Design, as an activity that crosses through the entire organization, becomes central: the firm organizes itself to make the dynamic process of qualification and requalification of products possible and manageable' (Callon, Meadel and Rabearisoa, 2002).**

**In the long procession of history, capitalism is the late-comer. It arrives when everything is ready (Braudel, 1977, p75).**

## **1. Introduction**

It is always difficult to tell where capitalism will go next as it continues to seek out new sources of profit. After all, capitalism is not a fixed and unforgiving force. Rather, it is a heterogeneous and continually dynamic process of increasingly global connection - often made through awkward and makeshift links - and those links that can be surprising, not least because they often produce unexpected spatial formations (Bayart, 2001, Tsing, 2004). Recent examples are legion but just three will suffice. Take the case, first of all, of the healthcare industry, a set of services often thought of as fixed and immobile and correspondingly inured to global connection. But there are all manner of signs that healthcare is going global, not just through the spread of large US healthcare firms but through the ways in which national boundaries are now being routinely crossed: from the exodus of Southern Swedes to

Estonia in search of cheap dental care through the use of Indian and South African operating teams in UK hospitals or Indian laboratories for blood and radiological tests to the sporadic practice of sending National Health Service patients overseas indulged in by some UK local health authorities<sup>1</sup>. Or take the case of the change in expatriate careers – from long periods of service in just one location to a series of short-stop stays in numerous locations – reflecting both economic factors (the traditional kind of expatriate was an expensive proposition), social factors (partners are no longer willing to agree to breaks in their career) and a fundamental change in corporate organization, towards offshoring, cross-border joint ventures, and the like (Economist, 2005a). Or take the rise in the importance of standards and certification, part of a more general emphasis on metering the corporate sector (Clark and Tickell, 2005). For example, ISO 9000 and CMM, the certification regimes used in the software industry, are spreading worldwide, a geography that reflects the demands and patterns of influence of large multinationals and the management of outsourcing (Cusunamo et al, 2003).

In other words, in the kind of proliferating spatial ontology that now holds sway, an ontology in which words like big and small or macro and micro are replaced by often quite carefully regulated chains of consequences that cannot be contained by these kinds of descriptions, there are an awful lot of stories to be told (Amin, 2004, Moore, 2004). Too many for a short paper like this. In this paper, I therefore want to take some really quite specific strands of an increasingly global capitalism to do with what might still be considered to be the beating heart of capitalism – the system of production of commodities and the process of commodification - and to attempt to weave them into a story about what might be happening at its leading edge: what we might see coming into being currently. Conforming to the premise that there is an urgent necessity to anticipate the transformation and command strategies of capital, I want to argue that we can detect a series of novel practices emerging which are likely to have interesting consequences over the long term, both economically and culturally, not least through putting these two descriptors into play<sup>2</sup>.

I will begin the paper by arguing that these new practices are being forced by a certain kind of desperation which is the result of a long-term profits squeeze (Brenner, 2003a, 2003b), a squeeze which points capitalism in two entirely opposed and closely linked directions which combine something that is often very close to barbarism with an increasingly sophisticated corporate vanguard which seems to be attempting to invent a vitalist capitalism that seems to want to install a capitalist

socialism, if that makes any sense as a phrase<sup>3</sup>. The juxtaposition is increasingly bizarre.

Thus, one direction is towards increasing exploitation of large parts of the world through what Marx called primitive accumulation (Harvey, 2003, Retort, 2005). It is clear that a considerable area of the globe is being ravaged by force, dispossession and enclosure as part of a search for mass commodities like oil, gas, gems and timber using all of the usual suspects: guns, barbed wire and the law. This primitive accumulation lies close to but is not always coincident with the vast global shadow economy dependent on illegal activities like smuggling, drug and people trafficking and money-laundering through which trillions of dollars circulate around the globe outside of formal legal reckoning (Nordstrom, 2004) and produces a stentorian backdrop to this paper, one which should be kept in mind through what follows.

The other direction, which I will be concentrating on in this paper, is to try to squeeze every last drop of value out of the system by increasing the rate of innovation and invention through accelerating connective mutation. In other words, a new kind of productive commotion is being achieved through an active refiguring of space and time via specific technical-artistic devices, predisposing machines which make knowledge a direct agent of the technical transformation of life. These machines act as interfaces that can change perception, and, at the same time function as a means of boosting difference and inserting it into the cycles of production and reproduction of capitalism, thereby reframing the process of choice. This full-on or full palette capitalism relies on a series of practices of intensification which can just as well be read as practices of extensification, since they involve attempts to produce the commodity and commodification in registers hitherto ignored or downplayed by using the entirety of available faculties<sup>4</sup> in a wholesale redefinition of productive labour, taking in the collective intelligence (what Virno, 2004, calls the 'public disposition') of what counts as the intellect and intellectual labour.

The politicization of work (that is the subsumption into the sphere of labor of what had hitherto belonged to political action) occurs precisely when thought becomes the primary source of the production of wealth. Thought ceases to be an invisible activity and becomes something exterior, 'public', as it breaks into the productive process (Virno, 2004, p64).

These sets of practices of intensification/extensification have not existed before as coherent and systematic entities and they are currently in the middle of things, so they may work - or they may not. But they have at least the potential to redefine what count as the horizons of capitalism by changing how encounter with the commodity is thought of and practised by the consumer (by trying to not so much control as to modulate vicissitude by boosting what is brought to the encounter), especially by incorporating the collective agency of the intellectual labour of the consumer (Berardi, 2005). In other words, value increasingly arises not from what is but from what is not yet but can potentially become, that is from the pull of the future, and from the new distributions of the sensible that can arise from that change. This is hardly a novel stance. After all, labour-power incorporates potential, that which is not current, not present, and this has a pragmatic dimension:

Where something which exists only as possibility is sold, this something is not separable from the living person of the seller. The living body of the worker is the substratum of that labour-power which, in itself, has no independent existence. 'Life', pure and simple bios, acquires a specific importance in as much as it is the tabernacle of dynamis, of mere potential (Virno, 2004, p82).

I do not want to claim any particular power of insight here. The tendencies that I will describe have been extant in prototype form for a number of years now, and in some cases their origins can be traced even earlier. Nor am I sure that the more general theoretical claims that I will make are particularly novel. It would be possible to argue that they have been prefigured in a number of places: by Michel Callon's work on an economy of qualities, by Luc Boltanski and Eve Chiapello's work on new forms of economic justification, by Edward Lipuma and Benjamin Lee's work on circulating capitalism, by Celia Lury's work on brands, by Lev Manovich's work on new media, by the work of Paolo Virno and Maurizio Lazzarato on intellectual labour and 'immaterial' capitalism, by the allied work of Moulner Boutang and others on cognitive capitalism, or even, to travel farther back in time, by Alvin Toffler's coining of 'prosumerism', or Gabriel Tarde's emphasis on invention, to name but a few sources. But what, I think, is startling currently is the rate of onset of these different but related tendencies and the way that they are now bearing out many what may have considered to have been premature general theoretical claims and prognostications. Thus what I will be presenting could be interpreted as historicizing Tarde's account of an animated economy<sup>5</sup> in that what seems to be being produced is a world dependent upon and activated by germs of talent, which are driven by sentiments

and knowledge and are able to circulate easily. The world becomes a continuous and inexhaustible process of emergence of inventions which goes beyond slavish accumulation. In other words, Tarde's analysis in Psychologie Économique is becoming true.

This rate of onset means that the paper is not just a simple illustration. Further, in its attempt to describe the new-old world that is hovering into view, I believe that the paper can act as a useful point of synthesis, and as a means of trying to inch towards a vocabulary for describing what that world might become like.

In ending this extended introduction, I want to make two main points. First, it can be objected that I am caught up in practices instituted in the corporate aeries of the world by the cultural circuit of capital which ignore the vast bulk of global capitalism and most especially the workaday world. They are the practices of ideologues and visionaries which are, in many cases, not far removed from simple hucksterism. My response is that what the new capitalist practices are about are making their way into this workaday world and refiguring it, so that capitalism can play much closer to the skin, so to speak. But it is also that these practices, like many others, contain within them contradictory impulses which provide the ground for new forms of political formation, a point I will return to in the concluding section of the paper.

Second, it may be objected that these are arguments without much in the way of empirical foundation. It is true that this paper is in part speculative, both in its object and in how it proceeds, but that is not to say that it has no evidence base. Spotting a process of the 'redistribution of the sensible' (Ranciere, 2000), of the production of a new form of consumer divination, involves some concentrated gleaning, which depends upon being able to pull together diverse sources and indicators. The paper is therefore based on three main stimuli. One is 'observant participant' fieldwork in business and in bioscience over a two year period. Another is the mining of a very large range of secondary sources that have proved appropriate. The sheer range of sources able to be drawn on reflects the difficulty of tracking an inchoate ambition that is being constructed in its making, and a consequent tendency to bricolage which is at the heart of new forms of capitalism. The third is an ESRC grant on e-commerce carried out jointly with Andrew Leyshon, Louise Crewe, Shaun French and Peter Webb which pointed to many of the developments I will discuss. Finally, then, this paper is a work of synthesis, but it is one based on close observation of some particular key arenas of practice.



The paper is therefore in three parts. In the first part, I will describe six closely related developments that, though they have been present in embryonic form for varying amounts of time, came together at the end of the twentieth century and are now being taken on, usually in lock step, as new ways to squeeze value by amplifying the rate of innovation through an exteriorisation of intelligence out from the corporation, ways which are in turn redefining what value is. Taken together, this second round of concept-practices describe a new distribution of the sensible. The first of these developments has been an obsession with knowledge and creativity and especially an obsession with fostering tacit knowledge and aptitudes through devices like the community of practice and metaphors like performance. However, this stream of thought and practice has now transmuted into a more general redefinition of intellectual labour arising out of the mobilisation of the resource of forethought, or rather the possibilities of plumbing the noncognitive realm and 'fast' thinking in general, a search typified by a book like Gladwell's recent business bestseller, Blink. Then, second, there was a desire to rework consumption so as to draw consumers much more fully into the process, leaching out their knowledge of commodities and adding it back into the system as an added performative edge through an 'experience economy'(Pine and Gilmore, 1999). This stream of thought and practice has now blossomed into a set of fully-fledged models of 'co-creation' which are changing corporate perceptions of what constitutes 'production', 'consumption', 'commodity', 'the market' and indeed 'innovation'. Third, the nature of the commodity itself begins to change, becoming a much more firmly embedded part of networks. Not only is its nature rethought by producers but also by consumers, especially by negotiating what counts as time and the senses. The subsequent two developments have involved the active engineering of space, the result especially of an emphasis on communities of knowledge improvising in context. Thus, fourth, all of this was to be informed by a profusion of information technology which would act as a kind of glue, as a means of achieving continuous interactivity, and therefore as a new source of reflexivity. This stream of thought of practice has gradually transmuted into attempts to produce pervasive environments that can produce multiple responsive combinations on demand, that will act as an always-on background. Fifth, there was an interest in producing more adaptable environments, especially through the construction of environments that would hasten productive interaction. This stream of thought and practice has transmuted into a more general concern with social engineering of groups, thereby learning how to use these buildings in ways that really will deliver the goods. Finally, these five developments have foregrounded the absolute importance of design. Through the phenomenon of interaction design, design has moved from

being an add-on to the means by which this world can be conceived and operated. It has moved from the periphery to the centre of things.

Throughout the paper, the reader will notice the difficulty that I have with keeping production and consumption separate: producers try to put themselves in the place of consumers, consumers contribute their intellectual labour and all kinds of work to production in the cause of making better goods, in a kind of generalized outsourcing, migrations regularly occur between production and consumption, and vice versa, and so on. It has, of course, been a standard component of a number of recent new left accounts that consumption, conceived as the consumption of ideas and affects, becomes, in some sense or another, productive: consumption is no longer a passive terminus but a complicit and creative relay in the production of capitalism. But it seems to me that these accounts, which were almost certainly premature and which were allowed much too great a generality, are now starting to take on real weight.

But what is this weight? In the second part of the paper, I will argue that these new sets of practices foretell a reworking of value as a new form of efficacy, one that will change the background of the western world by producing new interactive senses of causality which are, I suspect, likely to be more effective than the scientific and literary metaphors which are usually assumed to be at the root of changes in perception of causality (eg Kern, 2004). 'Efficacy' may not seem to be an obvious phrase to use in a discussion of globalized capitalism - it sounds a bit old-fashioned perhaps, a word that has seen better days. But I will hope to convince you that it is not only relevant but has genuine analytical grip in that its deployment allows us to fix on various moments and practices of 'rightness' which have heretofore neglected and which, more to the point, are becoming central to understanding how modern economies go on and what value now means within them.

This will appear to some to be an abstruse topic but I want to argue that it is crucial to any understanding of modern economies for which innovation is such a crucial engine and value, for what I want to broach is what counts as our understanding of the operativity of the economy – including how it goes about the business of innovation - and I want to argue that increasingly this is dependent upon representing and tapping in to a certain kind of efficacy, one that is different from what has come before. Notice here that I am not using keywords like 'knowledge' or 'creativity' to signal this change. They do not seem quite right to me in that they imply a kind of trawling for the new rather than the continuous process of interaction that now seems

to be becoming characteristic. At least in the forums that I will want to examine, words like these seem to me to conceal as much as they reveal and, in any case, they are artefacts of a first round of thinking about the issues, now being superseded.

In other words, I will want to argue that a new kind of efficacy is making its mark, one in which the process of encountering the commodity is central. This constructed sense of rightness increasingly figures both as an understanding of the understanding of how modern economies prosper, as an index of what it is to be a successful agent, and as a form of labour resource in its own right, albeit one that it is hard to touch and unlock, through its ability to extend or even redefine value in a period when marginal returns are becoming ever harder to make, in the core at least, in the face of generally heightened competition and a homogenization of business models as a result of the parallel spread of narrow concepts of business efficiency. I will offer three models of this new kind of efficacy, three different takes on how it might be characterized.

In the third and concluding part of the paper, I will draw some brief conclusions. These are concerned with the procedural, political and theoretical implications of these developments. I will argue that they are producing a different kind of capitalist world, one in which a new epistemic ecology of encounter will dwell and have its effects, a world of indirect but continuous expression, which is also a world in which that expression can backfire on its makers.

To summarize, my intention in this paper is to try to tease out some of the underlying elements of a forthcoming processed world as it becomes operational<sup>6</sup> and then to consider some of the consequences that are arising from its inception. Inevitably, I feel a certain amount of guilt at what I will have to miss out, not least because this necessitates omitting some of the most important elements of that heterogeneous set of processes that go under the name of 'globalization'. I have already signalled the grotesquery of a world in which the kind of continuous, 'vitalist' co-creation that I will describe is coming about alongside concerted attempts at primitive accumulation which often seem to hark back to an imperialism that had been written off but, in the conclusion, I will argue that this juxtaposition has more links than might be supposed and that these can constitute a fertile political resource.

## **2. A Forthcoming Epistemic Ecology**

For some time, I think it can be argued, western capitalism has been suffering from a crisis of profits. I still subscribe to this view, although the addition into the world economy of new economic powerhouses like parts of China and parts of India certainly muddies the waters. What evidence there is suggests that, over a considerable period of time, western capitalism has been in a long-term downturn following on from the post-war boom, based on overcapacity and overproduction. Episodes like the stock-market Keynesianism of the telecommunications, media and information technology boom from 1995 to 2000 did nothing to dispel this secular tendency while investment in information and communications technology – one mooted saviour – has until recently produced at least questionable returns.

But, against this dour background, there have been numerous efforts to alight on new business models that will soak up overproduction and overcapacity, most especially by either engaging more closely with consumers or boosting the rate of innovation. Most of these models have ended up producing ambiguous results in aggregate, partly for minor but important reasons (for example, managers can have very different understandings of what constitutes innovation (Storey and Salaman, 2005) and partly because this kind of cultural engineering is not easy to do and has required constant experimentation to make effective. But I think that this is now changing. What might be regarded as a set of new fuel sources for capitalism are coming together as a powerful system, new sources of energy that capitalism can tap (Mitchell, 2002).

In this first section, I want to outline what these fuel sources are. Taken as a whole, they add up to a different kind of encounter with the commodity, as an experimental ecology based on continuous interaction sufficiently imposing to resemble an aspect of time itself in that it produces a different set of crystallizations of time (Lazzarato, 2002). This cultural model of economic change is, not surprisingly, based on and in the continuous interactivity of the media (Manovich, 2001). The effect of this streaming ethos is, or so I will argue, to begin to restructure what counts as production and consumption and market and innovation so as to bring consumption closer to hand. If this ecology has an overall goal, then it seems to me to be to make the commodity even more empathetic by enabling it to lie ever closer to the concerns of the consumer, thus echoing Benjamin's (1938/1977) pregnant remarks on the soul of the commodity; 'if the soul of the commodity which Marx occasionally mentions in jest existed, it would be the most empathetic ever encountered in the realm of souls,

for it would have to see in everyone the buyer in whose hand and house it wants to nestle’.

## **2.1 The Mobilization of Forethought**

**‘It is by logic that we prove. It is by intuition that we discover’ (Poincaré, cited in Myers, 2002, p63).**

Let me start, therefore, by considering the mobilization of the forethought as part of a more general broadening of what capitalism counts as intellect and intellectual labour. Cognition is, of course, a vital aspect of human practice but research over many years has shown that it is at best a fragile and temporary coalition, a tunnel which is always close to collapse;

During the past forty years, in countless laboratories around the world, human consciousness has been put under the microscope, and exposed mercilessly for the poor thing it is: a transitory and fleeting phenomenon. The ephemeral nature of consciousness is especially obvious in experiments on the temporal minima of memory – that is the length of time we can hold on to a clear sensory image of something. Even under the best circumstances, we cannot keep more than a few seconds of perceptual experience in short-term memory. The window of consciousness, defined in this way, is barely ten or fifteen seconds wide. Under some conditions, the width of our conscious window on the world may be no more than two seconds wide (Donald, 2001, p15).

But the message gets worse: the average person can only grasp a few things at a time. And worse: the average person is prevented from becoming aware of most of their thought processes, they are simply not available for conscious reflection. And worse again: consciousness is notoriously vulnerable to distraction; the conscious mind finds it very difficult to maintain a sharp focus in the presence of other attractions. In other words, conscious awareness is fragmented and volatile; ‘our intellectual home, the cradle of our humanity, appears to be the most limited part of our mind’ (Donald, 2001, p25). This description is something of an exaggeration<sup>7</sup> – it derives from laboratory experiments and glosses over the richness of joint action in

which subjects do much better - but it also points to the way in which this minimal conscious perception is constantly backed up by other systems, two of which are particularly important. One is all the non-cognitive relays that hold it in place and do much of what we count as thinking;

a huge reservoir of unconscious or automatic cognitive processes that provide a background setting within which we can find meaning in experience. By relying on these deep automaticities, we can achieve great things intellectually. We can even carry out several parallel lines of cognition at the same time, provided they are kept out of consciousness. Musicians know this. When professional pianists play, they cannot afford to become overly conscious of their fingering or the specific notes of the passage they are playing, particularly the more rapid ones. That kind of self-consciousness is paralyzing. They have to automatize these difficult passages, or they will make major mistakes. The same rule applies to speaking (Donald, 2001, p26).

The other is that this minimal conscious perception is boosted and held in place by all manner of systems and environments and sites that extend awareness, systems and environments and sites that are increasingly artificial and increasingly made up of commodities. For example, the system of reading and writing<sup>8</sup> trains people to apply a highly detailed set of eye and other corporeal movements to a set of systematic practices that allow the environment to act as a prosthetic for thinking (and allow resultant ideas to hold still long enough to be worked on and developed). The facts of ethology cut in.

What is new about the current conjuncture is the way in which capitalism is attempting to use the huge reservoir of noncognitive processes, of forethought, for its own industrial ends in a much more open-ended way<sup>9</sup>. In the past, capitalism usually drew on noncognitive processes by training managers and workers and consumers to conform to set routines cut into forethought by various kinds of training such that the body could not master its own movements, or by trying to elicit conformist reactions to a brand. But, more recently, much thought has been given to understanding forethought as not just a substrate but as a vital performative element of situations, one which cannot only produce its own intelligibilities but which can be trained to produce ideas. In other domains, this ambition has a long history. One thinks of, for example, a nineteenth century phenomenon like Delsartism which was a

new way of reading minute body signs from gesture. But now the intention is to read and exploit signs of invention by regarding the body as a mine of potentiality and to generate and harness unpredictable interactions as a source of value by regarding space as more than a map. The automaticity of intuition can then be enrolled to produce better outcomes: it becomes a fund of expertise. For example, in the 1980s and 1990s managerial capitalism turned to various performative methods which were meant to be simultaneously forms of team-building and effective means of producing innovation (Thrift, 2005), often based on that famous slogan from Michael Polanyi; 'we know more than we can tell'. Not unreasonably, it was assumed that placing people in new combinations which were simultaneously re-arrangements of bodies and environments would produce new and reproducible tacit knowledges arising out of shifts in the practical intelligence needed to be successful at practical problem-solving (Sternberg et al, 2000)<sup>10</sup>. Of late, however, this kind of emphasis on a more effective everyday creativity has been added to, most particularly through the application of models drawn from writings from neuroscience which attempt to mobilise the momentary processes that go to make up much of what counts as human<sup>11</sup>.

Persons are to be trained to 'unthinkingly' conjure up more and better things, both at work and as consumers, by drawing on a certain kind of neuro-aesthetic which works on the myriad small periods of time that are relevant to the structure of forethought and the ways that human bodies routinely mobilize them to obtain results (Donald, 2001, Myers, 2002) to produce more of the kind of ideas that seem to just turn up which, in reality, are thoughts that we are forever prevented from becoming directly aware of. Intuitive expertise can be learned, for example by paying attention to the smallest corporeal detail, by so-called 'thin-slicing' (Gladwell, 2005).

Inevitably, this emphasis on a kind of hastening of the undertow of thought and decision, an open training of intuition, has led workers in this field to pay much more attention to affect, because waves of affect are often born in these small spaces of time out of a series of deep expressive habits and out of different emotional 'intelligences'. Further, it has become clear that affectively binding consumers through their own passions and enthusiasms sells more goods. Consumption is itself a series of affective fields<sup>12</sup> and more and more of the industry that investigates consumer wants and desires is given over to identifying possible emotional pressure points<sup>13</sup>. It has also led them to consider the design composition of things in more detail to see if it is possible to provide more in the way of momentary 'thing-power',

as well as the associated construction of circumstances rich enough in calculative prostheses to allow the neuro-aesthetic to function more forcefully, via the construction of a disposition that can produce a spatial appropriateness in the moment regularly and reproducibly, thereby not so much taming as harnessing chanciness to produce 'small miracles'. In other words, the aim is to produce a certain anticipatory readiness about the world, a rapid perceptual style which can move easily between interchangeable opportunities, thus adding to the sum total of intellect that can be drawn on. This is a style which is congenial to capitalism, arising out of new senses of kinds and collections of matter (Bennett, 2004) which will do more, an extended set of sense organs, if you like, that will sense the right things, and the right things to do and, more to the point, will mobilize new structures of forethought out of which can arise new ideas (Thrift, 2005).

## **2.2 The Mobilization of Ingenuity**

**'the market as a forum challenges the basic tenet of traditional economic theory, that the firm and consumers are separate, with distinct, predetermined roles, and consequently that supply and demand are distinct, but mirrored processes oriented around the exchange of products and services between firms and consumers' (Prahalad and Ramaswamy, 2004, p135).**

A second means of squeezing value has been achieved by reworking production and consumption, questioning both categories in the process, and leading to the perception of the commodity as consisting of an iterative process of experiment, rather than as a fixed and frozen thing, on the understanding that 'an organization's capacity to innovate relies on a process of experimentation whereby new products and services are created and existing ones improved' (Thomke, 2003, p274). In other words, what is at issue is 'a particular mode of innovating ... linked to constructions of the market framed by information about the consumer' (Lury, 2004, p62) which, in turn, depends upon a reworking of what is meant by the commodity from simply the invention of new commodities to the capture or configuration of new worlds<sup>14</sup> into which these commodities are inserted.

In the sphere of production, this reworking has been achieved by giving much greater emphasis to the process of rapid experimentation, especially early in the production process, resulting, in particular, from the integration of new information technologies into the product development process, thus allowing a much greater spectrum of



possibilities to be tested, thereby speeding up the experimentation-failure cycle and making it possible to produce a process of continuous redevelopment. Specifically, this reworking has drawn on four ongoing developments: using the resources provided by computer simulation, re-organising production processes so that they can cope with preliminary conclusions and rough data<sup>15</sup>, putting in place systems that explicitly learn from the experience of products and, lastly, shifting the locus of experimentation to customers because all the evidence shows that users' intellectual labour can itself be a powerful source of innovation (Thomke, 2003). The distinctions between exploratory and exploitative innovation therefore become much more difficult to maintain (Roberts, 2004) since lots of ideas are being generated at relatively low cost through organizations that are 'permanently beta' (Neff and Stark, 2003).

This latter strategy of moving innovation beyond the organization by tapping into the commodity involvements of consumers and others, under the general slogan 'not all the smart people work for you' (Chesbrough, 2003), has proved particularly important, and I will therefore concentrate my attention on it. It is important to note that consumer inputs into innovation have a long historical record. For example, Franz (2005) has shown the way in which early automobiles were the subject of all kinds of consumer innovations – what she calls 'tinkering' was one of the main motors of technical improvement. Then, in the late 1920s and 1930s, the rise of large corporations with specialized research and development facilities and the ambition to manage consumer desire, combined with designs that made automobiles easier to drive but harder to modify, put a stop to tinkering as a major source of innovation. But that is now changing and consumers are able to take back some measure of technological authority. A number of changes in the technical background, and most notably information technology, have allowed ingenuity to flourish again. In particular, information technology has reduced the transaction costs of sharing information about commodities and has, simultaneously, made it much easier to construct communities around this sharing. The result has been a flowering of so-called open or user-centred innovation, which may even be comparable to the diffusion of innovations noted by Mokyr (2003) in the nineteenth century which resulted from massive cuts in the transaction costs of innovation.

In open or user-centred innovation, consumers are a vital force in research and experimentation<sup>16</sup>;

Users of products and services – both firms and individual consumers – are increasingly able to innovate for themselves. User-centred innovation processes offer great advantages over the manufacturer-centric development systems that have been the mainstay of commerce over hundreds of years. Users that innovate can develop exactly what they want, rather than rely on manufacturers to act as their (very often imperfect) agents. Moreover, users do not have to develop everything they need on their own: they can benefit from innovations developed and freely shared by others (Von Hippel, 2005, p1).

Companies are increasingly likely to ‘free reveal’ in order to increase incentives to innovate, giving away ownership rights in order to obtain other benefits. Though the example often given is open source programming, the democratising of innovation goes far beyond this particular practice (Von Hippel, 2005), by recognising the enthusiasms and pleasures of consumers’ involvements with numerous commodities and entering into a relation with those involvements, thus producing ‘experience innovation’ (Prahalad and Ramaswamy, 2004) through shifting the boundary between private and collective.

But it is important to note that not all or even most consumer communities are active innovators. Rather, they are likely to be involved in something much closer to what Barry (2002) and Lazzaroto (2002), following Tarde, call ‘invention’, as a means of distinguishing the practice of iterative improvements resulting from particular modes of interaction from innovation. Invention may multiply the possibilities for technical change but is rather a form of imitative change that opens up the possibilities for further action: ‘the amplification of slight transformations in the design, styling, promotion and delivery of a particular product (or service) has the potential consequence of non-linear returns as it is exploited in the multiple relations between products ...’ (Lury, 2004, p60). In invention, mere use<sup>17</sup> is superseded by pleasure in the activity itself, of which the commodity is an active partner. When a commodity produces a sufficiently compelling experience environment, consumer communities will evolve beyond a company’s control, thus directly co-creating value and providing the firm with a new terrain of profit – generalised outsourcing - if it is nimble enough to adapt to the new conditions. These communities gather round particular obsessions, which cover an enormous spectrum although many of the prototypes were in music, fashion and information technology. Sometimes these communities resemble mere interest groups, sometimes groups of fickle fans, sometimes

hobbyists, and sometimes cults. What is clear is that their existence is not predictable, in part because they are engaged in activities which find their own fulfillment in themselves, without necessarily objectifying these activities into 'finished' products or into objects which survive their performance (Virno, 2004). The quality of interactivity therefore becomes a major part of the commodity, not only because that interactivity assumes the presence of others but also because a number of products have become more complex and require more consumer investment, in part playing to this social tendency<sup>18</sup>.

This emphasis on open innovation achieved through much closer involvement with consumer experimentation clearly blurs the distinction between production and consumption by drawing the powers of consumers in to production and by drawing producers into the worlds of consumers to a much greater degree than heretofore. Company-consumer interaction becomes crucial. The information asymmetries that characterised the boundaries between producers and consumers are thus being redrawn. Because this is proving to be a particularly important new practice, I propose to spend more time on it.

Consumers have become involved in the production of communities around particular commodities which themselves generate value, by fostering allegiance, by offering instant feedback and by providing active interventions in the commodity itself. Thus markets become less simple means of selling products composed at the terminus of a value chain whose only forms of interactivity are sales figures and the diverse forms of market research and more forums in which interchange takes place around a co-created commodity experience: 'products and services are not the basis of value. Rather, value is embedded in the experiences co-created by the individual in an experience environment that the company co-develops with consumers' (Prahalad and Ramaswamy, 2004, p121). In turn, producers increasingly become the equivalent of agents, acting as links back to a disaggregated commodity chain and forward into current consumer obsessions. This new view necessarily challenges dominant conceptions of what constitutes a market. The market becomes a forum where dialogue between firms and consumer communities takes place, this dialogue being much more heterogeneous than formerly. The market is no longer outside the value chain, acting as a point of interchange between producer and consumer. Greater interactivity means that 'the market pervades the entire system' (Prahalad and Ramaswamy, 2004, p125). (Table, p136).

### 2.3 The Mobilization of the Commodity

A third means of squeezing value has been achieved by extending the signature of the commodity, by in effect redefining what counts as the commodity by extending its footprint in time and by reinforcing its content, most especially by loading it with more affective features. This has involved a series of different strategies, which are only now becoming related. One is well-known: the advent of project—working around what might be termed ‘value proposals’ which necessitate a structured flow of work that allows a product to be continuously developed (Grabher, 2003). More and more companies are becoming like project co-ordinators, outsourcing the ‘business-as-usual’ parts of their operations so that they can be left free to design and orchestrate new ideas, aided by new devices like product life-cycle software which allow product designs to be rapidly changed.

Nike, for instance, does not make shoes any more; it manages footwear projects. Coca-Cola, which hands most of the bottling and marketing of its drinks to others, is little more than a collection of projects, run by people it calls ‘orchestrators’. .. BMW treats each new car ‘platform’, which is the basis of new vehicle ranges, as a separate project. Meanwhile Capital One, a fast-growing American financial services group, has a special team to handle its M&A ‘projects’. For all these firms, project-management has become an important competitive tool. Some of them call it a core competence (Economist, 2005, p66).

What is striking is that, in certain senses, these commodity projects never end, or are certainly extended in time by slight but significant transformations of performance, because of the need to continuously interact with consumers. And, as the response time of interactivity has speeded up, so different imaginations of the consumer and commodity have been able to come into play (Lury, 2004). Seen in this light, what I call generalized outsourcing is simply a logical extension of existing models, but using more and more distributed actors.

Another means of extending the commodity has proved to be through finding means of aggregating so-called ‘long tails’ so as to make more goods more saleable. In this model, information technology makes it possible to sell more goods but this is not just a logistical exercise. It involves the active fostering of various consumer communities

and their aggregation into critical masses with the result that commodities that would have had only faint sales records in the past because of their isolated 'audience' come to have substantive sales records which, when aggregated with those of other audiences, produce a substantial new market segment (Brynjolfsson, Hu and Smith, 2003). In turn, these new audiences can be worked on: their enthusiasm can be played to, for example through the medium of websites which act as 'honey traps'. So, for example, Amazon.com now sell more books from the backlist outside their top 130,000 bestsellers than they do from within them, in part through all manner of devices that are intended to capture and foster enthusiasms and automate 'word of mouth'.

One other strategy has been to think of commodities as 'resonating' in many sensory registers at once, increasing the commodity's stickiness (or at least making it more recognisable in amongst the commodity cacophony of modern capitalism): 'today the value proposition is more intimate and intuitive' (Hill, 2003, p20). The aim is to add in more feeling by appealing to registers of the senses formerly neglected, thus stimulating the emotions connected with things, and so generally producing more affective grip for those things – and thus more engaging artefacts that will sell and produce commitment. This tendency, which in the 1990s gathered around slogans like the 'experience economy', has been most obvious in two areas: commodity design and brand design.

Increasingly, commodities are thought of as interfaces that can be actively engineered across a series of sensory registers in order to produce positive affective responses in consumers. Aided by a set of new material surfaces, commodities must appeal across all the senses, reminding us that the original meaning of the word 'aesthetics' was the study of the senses. Sensory design and marketing has become key (Hill, 2003). Thus, car doors are designed to give a satisfyingly solid clunk as they shut. New cars are given distinct smells. Breakfast cereals are designed to give a distinct crunch<sup>19</sup>. Travel experiences are given distinctive aromas<sup>20</sup>. And so on. In turn, this deepening of the sensory range of commodities is related to distinct market segments. For example, there is currently a thriving area of consultancy that is based on advising on how to make products more appealing to women (see, for example, Molotch, 2003, Barletta, 2002). Nearly all of these products involve various forms of 'sensorizing'<sup>21</sup>.

Brands are probably the area of the economy in which thinking and practice has gone farthest. The practice of constructing 'multisensory', experiential brands that function across all the senses has become more and more common (Lindstrom, 2005). Brands must be 'five-dimensional', appealing to all five senses. Why? Because in a world in which there is a profits squeeze which demands more commodity performance for less, and in which traditional means of advertising are becoming less and less effective<sup>22</sup>, and in which consumers are becoming more interactive, the fight for brand definition demands more and more tapping of sensory potential. To put it another way, brands are attempting to build a certain kind of authenticity, based on co-creation, on acknowledging context and on passions, both in the sense of tapping into the passions of consumers and in the sense of becoming more passionate, through appeals to the full range of the senses. 'Emotional positioning' becomes vital.

A crucial part of the development of a full palette capitalism is the more active use of space. In line with the increasing tendency of production-consumption to want to gather invention in wherever it may be found, new time-space arrangements have to be designed that can act as traps for innovation and invention. The next two developments are attempts to extend the environment in which ideas circulate by making thinking spaces. But, crucially, these spaces are not sealed. They are insertions within already present flows (Kwinter, 2001). They are designed to allow continuous interaction both within and across boundaries by maximizing 'buzz' (Storper and Venables, 2004). They are spaces of circulation but, more than that, they are clearly meant to be, in some (usually poorly specified) way related to their dynamic and porous nature, spaces of inspiration incorporating many possible worlds (Lazzarato, 2005).

## **2.4 The Mobilization of Information Technology**

It is clear that none of these practices of intensification/extensification could have become possible without the concerted application of large doses of information technology which has made many more environments highly equipped. For example, information technology acts as a means of propagation which is also a means of structuring perception (Liu, 2004). It acts as a means of singularization which is also a means of aggregating a multiplicity of voices. It acts as a system of distributed cognition which is also a means of capturing new potential. And it acts to radically increase the general availability of consumer goods and services. What is interesting

has been the way in which information technology has so rapidly become a pervasive feature of the design and presence of commodities as societies have become incorporated in an information culture so that increasingly information has a feel to it generated by the interface (Liu, 2004).

To an extent, information technology is simply another means of gathering and generating knowledge, similar to the system of propositional knowledge that powered the industrial revolution (Mokyr, 2002) in that it is a system for knowing how to find something that is known; 'the continuous exchange of useful knowledge between the minds of agents and between agents and storage devices has become much faster and cheaper since the early 1990s' (Mokyr, 2002, p9). Indeed, it has been argued that the most important characteristic for innovators has always been knowing what they do not know and then being able to find those who do; 'it is the hallmark of an innovative producer to know what he or she does not know but is known to someone else, and then try to find out' (Mokyr, 2002, p9). Seen in this way, the internet provides a much wider epistemic base for innovators: large amounts of propositional knowledge that would have been out of reach come into reach and one's own knowledge is equally easily communicable. The number of doors an innovative producer can walk through has increased markedly because knowledge is no longer 'tight'. The result is that a particular epistemic plateau is breached and a cumulative stream of micro-inventions becomes possible.

In other words, information technology forces five features which, taken together, constitute an extension of intelligence. One is simply the sheer amount of information becoming available to consumers all but instantly, especially through software like Google. The second is the greater access to information that has accompanied this trend, both by consumers about products and by companies about products. Access costs have plummeted. The third is that linkages and associations are automatically generated for the consumer. Information is continuously linked providing shortcuts that can arrest time for a moment and make more of an encounter by providing backup, connectivity and inspiration. The fourth is that a certain kind of transparency therefore develops. This should not be overdone but it is quite clear that consumers can now find the means to be better informed and to find the means to more easily learn about products. Finally, the process of acquisition of information becomes, in principle at least, continuous. It is not fixed but is something that is akin to a never-ending walk. In other words, information technology, through continuous interactivity, offers more reflexivity but a very particular kind of reflexivity that both promotes and

inhibits exchange between producers and consumers by instigating performances of its own at the interface which are more than simple mediations (Latour, 2005) as it tries to not simply approximate being-in-the world but boost it by constructing new kinds of in-formed affinity and participation, new communities of all kinds (Dourish, 2001).

The settling-in of information and communications technology can be interpreted as the product of a further step in what Callon famously calls 'the economy of qualities' which is now producing a new 'post-phenomenological' commodity architecture, a frame that can combine interactive systems (most of which rely on software in one form or another) and commodities with the spaces and times of everyday life, thereby producing an environment filled with applied and firmly embedded intelligence that is involved in constant iteration and feedback (Thrift, 2005a, b). Thus, authors in the literatures that I have examined constantly resort to quasi-phenomenological models to write about producing a new ground or place or repository, one in which commodification would nestle as an unassuming and thereby even more powerful presence - remember Benjamin's remarks about the soul of the commodity - but, because of the actively-seeking efforts of individual consumers and consumer communities, would be even more profitable. These new grounds would constitute a streaming space in which the circuits of value and culture would be fused through a redefinition of the nature of materiality, through what is, in effect, a redistribution of the sensible.

## **2.5 The Mobilization of Interaction**

The fifth means of squeezing value has come about through learning how to maximise social interaction. In the 1990s this resource was underlined by two main sources, both of which came from a general belief that context was crucial because 'knowledge workers do not follow procedures so much as expertly play their contexts. Without an ability to improvise in context, people who are merely following official prescriptions are utterly lost as soon as they stray from known conditions, which of course happens all the time' (McCullough, 2004, pp150-151). Thus contexts needed to be actively designed as an extension of intelligence. The first of these sources was an emphasis on unlocking innovation through group interaction. Building on a long tradition of management thinking about issues like tacit knowledge, this was chiefly embodied in the notion of community of practice. The second was through the construction of buildings that would fit with and boost such formations. Again, this



built on a long tradition of trying to design teamwork into buildings which had passed through an industrial phase and was becoming interested in buildings which could encompass many modes of social interaction by encouraging both concentration and dispersion simultaneously. So, for example, an office building might contain decloistered spaces of semi-public interaction and all kinds of dens in which individuals or smaller groups could make their way (Duffy, 1999).

However, the early twenty-first century has seen further developments, born particularly out of the domain of production of intensive knowledge like various forms of science. A new round of buildings are beginning to provide a more general model for how spaces of invention should be built and managed by boosting their qualities of mutual implication.

A good example is provided by the new generation of biosciences buildings, built as a result of the massive private and public funding that the biosciences have been able to attract through their rhetorical capabilities, and most especially the new generation of therapies that they hopefully prefigure. Concurrent with the rise of the biosciences to such a level of prominence has been a radical redesign of scientific space, reflected in the construction of numerous new 'performative' buildings. For example, every University campus worth its salt is now expected to have its own gleaming temples to interdisciplinary bioscience. These buildings are clearly meant to manipulate time and space in order to produce intensified social interaction so that all manner of crossovers of ideas can be achieved. In other words, the aim is to make architecture more effective by making it more performative.

Through the 1990s and into the 21<sup>st</sup> Century, these buildings have been being routinely constructed. For example, just in the UK, the science buildings in the Centre for Life at the University of Newcastle (opened in Newcastle in 2000), the Wellcome Trust Biocentre and the Centre for Inter-Disciplinary Research, both in Life Sciences at the University of Dundee (opened in 1997 and 2006 respectively)<sup>23</sup> or the forthcoming Manchester Interdisciplinary Biocentre opening at the University of Manchester in 2005, are typical. Similarly, around the world, a series of elite scientific spaces are being constructed which are intended to produce performative, interdisciplinary machines (Cf Livingstone, 2003). The most well-known model for these spaces is to be found at Stanford University in the shape of Bio-X. However, a series of other such buildings have either just been completed or are under construction, including the QB3 consortium buildings at UCSF in Mission Bay, San

Francisco, the Institute for Systems Biology in Seattle, and the Howard Hughes Medical Institute research campus at Janelia Park in Virginia.

These buildings usually share a number of features in common. First, they will often include an explicit attempt to represent 'life', whether that be swooping architecture, some forms of public display of science, and similar devices. Second, they are meant to be highly interdisciplinary. As a matter of routine, they usually include not only biologists but also physicists, chemists, computing engineers and so on, all clustered around root technologies like genomics, proteomics, imaging, and the like. Very often, they will place apparently unlike activities (such as computer laboratories and wet laboratories) side by side, or have unorthodox office allocation schedules, all intended to stimulate interdisciplinarity. Third, they are porous. Personnel (for example, scientists arriving and departing on a permanent basis) and information constantly flows through them: as Galison and Jones (1999) note, the emphasis on co-dependence and co-extension makes it difficult to decide where the experiment begins and ends; rather, there is a global network of software and hardware with no single object or author which the building may only capture fleeting aspects of. The experiment, like the building, is partially dispersed, occurring at a number of locations at once. Fourth, in keeping with an architectural rhetoric about changing ways of working which arose in the mid-1980s and is now an established convention, they are meant to encourage creative sociability arising out of and fuelling further unpredictable interactions. From cafes to temporary dens to informal meeting rooms to walkways that force their denizens to interact (Duffy, 1997), the idea is clearly to encourage a 'buzz' of continuous conversation oriented to 'transactional knowledge' and, it is assumed, innovation. Fifth, they are meant to be transparent: there are numerous vantage points from which to spot and track activity, both to add to the general ambience and to point to the values/value of the scientific activity that is going on. In other words, these buildings are meant to encourage a certain kind of notion of interactive knowledge.

But, though these buildings place a clear premium on interdisciplinary discovery, it is often not clear how that process of discovery is being maximised (Rhoten, 2003). Often, it is simply assumed that these buildings must generate better results. Only very recently have most of the managers of these buildings even countenanced installing knowledge management and data mining<sup>24</sup> systems that could tell them whether the work going on within their bounds is somehow better than the average and what difference the new environment itself may be making. That said, it is

interesting to note the way in which, very gradually, new working practices are growing within them based upon an art of flexible and temporary agglomeration in order (supposedly) to guarantee maximum innovation. In particular, I want to point to three developments that are becoming clear. One is a move to agglomerate in a quasi-organic fashion around key individuals who are good at brokerage across structural holes in the organization. Thus, one requirement may be to 'leverage the likeable' so that groups form naturally and so that linkages between groups are maximised: then the concern is to find individuals who form 'affective hubs' (Casciaro and Lobo, 2005) as people who are liked by a disproportionate number of other people. But in the organizations I have looked at, such individuals may just as likely be those who have a certain scientific charisma and are not necessarily likable. Whatever the case may be, it is clear that these organizations are searching for people that can act as brokers around which new groups can constantly form. These people will routinely cross the spaces between existing groups and so maximise between group thinking that might otherwise not exist, very much in line with Burt's (2004, p349) finding that people whose networks span structural holes 'are at higher risk of having good ideas': they are more likely to express ideas, less likely to have ideas dismissed, more likely to have ideas evaluated as valuable, and more likely to be relied on to keep on proposing ideas. But the second development in these organizations is to keep the groups on the move so as to avoid group decay and organizational inertia. They are not allowed to coalesce for anything other than a limited period of time (usually six to twelve months) before that are split up and new groups are formed. This is akin to project working but project working that is self-selecting. In other words, what we see coming into existence is an attempt to socially engineer the process of scientific discovery, using the physical environment as a resource but not as a determining factor. Then, the third development is that in some of these buildings a new position in the formal division of labour has started to grow up, crystallising out these kinds of skills. Thus a number of buildings now employ 'pathfinders' whose function is to make sure that the hopper is constantly filled with ideas through formal job descriptions that give selected staff this function on either a full-time or fractional basis<sup>25</sup>.

## **2.6 The Mobilization of Design**

**'Design is how we can be dominated by instrumental rationality and love it, too' (Liu, 2004, p236).**

What seems certain is that the net result of these tendencies has been to underline the importance of design (Molotch, 2003). Design has become a fundamental aspect of both production and consumption;

Until recently, most businesses held little regard for design, ... because they saw it as something applied after the fact. When it merely dealt with packaging (including front-end interfaces) design seemed superficial. When it was thought of as applied decoration, which may still be the most widespread connotation of the word, design implied cost rather than income. Industrial design's origins in corporate identity, in which a brand is applied to something that has already been produced, only reproduced that perception. This is a vicious circle. When design is applied to productions that have long since been analytically conceived, the self-fulfilling unimpressive results can be used to demonstrate the superficiality of design.

Now that circle is breaking. Widespread computation makes business strategies based on reductive numerical models more or less available to everyone. Because efficiency models become more of a prerequisite but less of a competitive advantage, strategic emphasis shifts to design. The design of industrial products such as shoes and automobiles has advanced considerably as a result (McCullough, 2004, p150).

Design has increasingly therefore become interaction design: the design of commodities that behave, communicate, or inform, if even in the most marginal way, in part by making them into processes of variation and difference that can allow for the unforeseen activities that they may become involved in or used for which they may then act as clues to further incarnations. In other words, 'the success of a design is arrived at socially' (McCullough, 2004, p167), that is through structured processes of cultural deliberation which massage form (Molotch, 2003). In a sense, the goal is to produce commodities that are as 'natural' as longstanding commodities like books but to do so in an accelerated way by dint of various collective design processes that spill outside the organizational boundary, including not just the full spectrum of qualitative methods now routinely used by corporations (or at least by the consultancies that they hire) such as focus groups, ethnography of various kinds, style boards, means-end chains, clinics, pre-launches, information acceleration, conjoint analysis, and so on, but also fan websites, open innovation, and so on.

Thought of in this way, more and more design activity is not defined in relation to a final endpoint. Rather, the 'production process has no final goals, no natural target or final user, but rather continuously feeds on itself. Another way of putting this is that 'through the activity of design the process of production provides information for itself about itself' (Lury, 2004, p52). This is another means of understanding co-creation of course, as a continual process of tuning arrived at by distributed aspiration.

To summarize, these six tendencies increasingly mean that commodities have become extended architectures in time. The commodity becomes a process micrometaphysics whose aim is to generate and maximize involvement, however temporary that may be, by placing the commodity in an often heterogeneous experience that has itself been designed as part of what constitutes the commodity. The commodity, in other words, is becoming a definition that is in perpetual flux.

### **3 Of Poetry and Profit**

**'In a genuinely new economy, what constitutes value itself must change' (McCullough, 2004, p261).**

It is obviously difficult to find a common denominator for all these different developments but in this section I will argue that what they signify is a more general change in how and what constitutes the value form. No longer can the value form be restricted to labour at work. It encompasses life, with consumers trained from an early age to participate in the invention of more invention by using all their capabilities and producers increasingly able to find means of harvesting their potential.

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. The living body becomes an object to be governed not for its intrinsic value, but because it is the substratum of what really matters: labor-power as the aggregate of the most diverse human faculties (the potential for speaking, for thinking, for remembering, for acting, etc.). Life lies at the center of politics when the prize to be won is immaterial (and in itself non-present) labor-power (Virno, 2004, pp82-83).

Thus, capitalism increasingly uses the whole bio-political field as labour is redefined as what Marx in the Grundrisse (1973, p706) called the 'general intellect', or general social knowledge acting as a direct force of production organizing social practice (Negri, 1991). Whether this reserve of virtuosity, 'the subjective, affective, volitional aspects of production and reproduction which tend to become the main sources for the extraction of surplus value' (Toscano, 2004, p211), should go under the heading of immaterial labour as some writers would have it is a moot point<sup>26</sup> but it seems important to signal in some way the degree to which capitalism increasingly attempts to draw on the whole of the intellect. The extent to which this intellect stands apart from capitalism is again debateable. For example, Lazzarato (2002, p138) argues that 'social labour power is independent and able to organize both its own work and its relations with business entities. Industry does not form or create this new labour power but simply takes it on board and adapts it'. But this seems unlikely. As we have already seen, capitalist firms are intimately bound up with organizing and harvesting this labour, though it would be an exaggeration to say that they control it. Finally, what it means for the value form is, to say the least, unclear. Perhaps the best solution may be to go back to the discussions of value by Tarde in Psychologie Économique and use them to renew inspiration, as Lazzarato (2002, 2005) has done. Notably, Tarde wanted to bring together three kinds of value: valeur-utilité (economic activity conventionally understood), valeur-verité (the activity of knowing) and valeur-beauté (aesthetic activity). Whatever the case, it is clear that political economy can no longer claim an 'isolement splendide, majestueux et décevant' (Tarde, 19, p97).

What does seem certain is that the developments I have outlined above add up to more than the sum of their parts. They are forming a new distribution of the sensible which is, at the same time, a living resource. It is as if someone had found a way to mine more than just a scintilla of experience and then play the result back<sup>27</sup>.

In turn, this new living resource allows Western economic cultures to be coded differently. These cultures have always had their own forms of conceptual-cum-practical determination which are buttressed by particular arrangements of time and space which confirm those determinations (for example, in the past, the factory). Now these determinations and their accompanying arrangements of space and time are changing. To caricature, these determinations have been seen as linear in form but they are increasingly taking in specificity, multiplicity, complexity, probability and uncertainty (Kern, 2004). Thus, another kind of interactive model of causality is gradually evolving, one which has been coded by words like network and creativity

and complexity but which I will want to describe rather differently by making an argument about the quality of 'efficacy'. Efficacy is variously defined by dictionaries – as the 'ability, especially of a medicine or a method of achieving something, to produce the intended result', as 'the capacity or power to produce an effect' or as 'the ability to produce desired results'. In other words, efficacy constitutes a certain kind of capability, a force. Efficacy can take on a number of different forms, of course. For example, anthropology is chock full of examples of efficacy which western cultures find odd, even outlandish, centred on practices like magic, witchcraft, divination and sorcery (Peeke, 1991). In the past, these kinds of practices would have been interpreted as evidence of a comprehensive cosmology. Nowadays, they are more likely to be seen as moments in a habitus of structured improvisations, fixations if you like. But whatever the case, they are seen as expressing the lines that trace out how a culture is conceptually determined<sup>28</sup>, the beliefs a culture holds in what works and what doesn't which are enshrined in all manner of bodily dispositions, objects and ecologies<sup>29</sup>.

I want to argue that, of late, a different kind of efficacy is gradually being foregrounded as a result of the conjuring up of a particular sensory configuration of time and space in which commodities can unassumingly nestle. It is a form of efficacy that I will call 'rightness' in that it is an attempt to capture and work into successful moments, often described as an attunement or a sense of being at ease in a situation, although it is both more and less than that, more in that it is now being constructed as a reproducible technology, less in that the necessarily formulaic nature of this technology is bound to mean that certain sensings are diminished or even go missing. This search after a certain sense of rightness has always been an intrinsic feature of the operations of capitalism, of course. One only has to think about the importance ascribed to reading financial markets of various kinds which, in large part, is about knowing when to buy and sell various financial instruments and which has been described in books and primers that date back to the nineteenth century and before. And it is not that it has never been noticed or commented on. For example, in an address to Harvard Business School in 1932 John Dewey identified one of the key skills of business to be a quality of foresight which was also a sense of timing. But, I want to argue that it has become a more highly sought-after quality which it is now thought can be actively engineered on a mass scale, a thesis I have tried to outline in some detail above.

What seems certain is that the implementation of this new version of efficacy demands that capitalism becomes 'both a business and a liberal art' (McCullough, 2004, p206), in that what is being attempted is to continuously conjure up experiences which draw consumers to commodities by engaging their own passions and enthusiasms, set within a frame that can deliver on those passions and enthusiasms, both by producing the goods and by making those goods open to potential recasting. It would be a Latourian (1996, p23) sense of the world made incarnate by a co-shaping which is neither an intrinsic property of the human being nor of the artefact;

For the thing we are looking for is not a human thing, nor is it an inhuman thing. It offers, rather, a continuous passage, a commerce, an interchange between what humans inscribe in it and what it prescribes to humans. It translates the one into the other. The thing is the nonhuman version of the people, it is the human version of things, twice displaced. What should it be called? Neither object nor subject. An instituted object, quasi-object, quasi-subject, a thing that possesses body and soul indissolubly.

If one wished to consider this tendency in more detail, it would be as an attempt to mass produce commodities as so many experiences of a sense of rightness through a series of new practices of innovation that draw directly on consumers' collective intelligence.

How might we understand this new form of efficacy that lies somewhere between business and art? Are there models which might shine a light on it? I will end this section very speculatively by noting just three possible models which might act as sources of inspiration for further thinking about what is currently happening to value and how it will be rendered sensible and, in certain senses, calculable in new ways<sup>30</sup>: an aesthetic model, an instrumental model and a characterological model<sup>31</sup>. In the first model, rightness is understood as an aesthetic quality, in the second as a general cultural model of how to attain ends and, in the third, as a model of governance. Let me start with rightness as an aesthetic.

### **3.1 Rightness as an Aesthetic**

By all accounts, Wallace Stevens (1879-1955) was a man who enjoyed life. He was a lawyer, admitted to the New York bar in 1904, who worked in New York until 1916. In



that year he left New York and moved to Hartford, Connecticut to join the Hartford Accident and Indemnity Company, where he worked in its fidelity and surety claims department. He became a Vice-President of the company in 1934 but refused all advancement after that date. He was proud of his work and was seemingly very good at it. He even published a couple of short papers on insurance.

Wallace Stevens was also undoubtedly one of the twentieth century's greatest poets. By most counts, a late bloomer – he was 36 before he published his first work, did not publish his first book until 1923, and is widely regarded as having written some of his finest work in his sixties and seventies – Stevens is now judged by many writers to be the quintessential modernist poet.

One of Stevens' key tasks was to resonate with the moments of sudden rightness in an ultimately bewildering world, those moments of everyday life when 'mere' things seem to light up, seem to become 'precious portents of our powers' (Stevens, 1960, p174):

The dark metaphysical activity of the poet is described in musical terms, where rightness would be a kind of harmony between mind and world. In this sense, our being-in-the-world would be experienced as emotional attunement, which is one rendering of Heidegger's Stimmung, which is otherwise rather flatly rendered as 'mood'. Metaphysics in the dark is a kind of music where rightness means sounding right (Critchley, 2005, p39).

Such a determined pursuit of rightness can be interpreted as presaging a new model of efficacy, one with many forebears, of course, but one which heralds new belief in the causation of the object. If the word 'belief' has a quasi-religious tone, that is as it should be, for this form of efficacy, a 'metaphysics in the dark' (Critchley, 2005), consists of enlarging the powers of objects through a series of procedures and technologies for building their capacities, including working on the appropriate spaces and times in which they are to be found (Mitchell, 2005). But, this is not a revelatory or edifying belief. Rather, it is a boost to what we regard as mundane certainties about how the world will turn up next, about what is, with all the imperfections we often see kept in, confirmed by a combination of vivid sensory stimuli, new forms of narrative, and a controlled element of surprise. In a sense, the aim is simply to see the thing itself, to see things as they 'merely' are, through a material aesthetics (Verbeek, 2005) that allows objects to be turned into 'poetics'.

Things as portents of our powers remain remote from our intentions but not necessarily from us.

### **3.2 Rightness as a General Cultural Model of Instrumentality**

Let me turn now to how the world is conceived to turn up next. A second model of rightness is based on a cultural model of consuming the world that presumes a different carpet of expectation, one based on a form of opportunism that rewards the skill of manoeuvre amongst interchangeable opportunities<sup>32</sup>. One analogy that can be drawn is with the Chinese concept-practice of 'shi'. That concept-practice (which is indeed an attempt to collapse that distinction), originally derived from warfare but soon moved into many other domains including everyday life. It tries to capture and work with the propensity of things by cultivating a potential born of disposition (Jullien, 1995). A person is expected to exploit the potential of the conditions she encounters. She must organize circumstances so as to derive profit from them.. She must find the line of force that exploits the configuration she finds to hand. This is not a personal capacity: 'human virtues are not intrinsic, since the individual neither initiates nor controls them, but are the 'product' (even in the materialistic sense of the word) of an external conditioning that is, for its part, totally manipulable' (Jullien, 1995, p30). The tactical disposition of things is more important than moral qualities: manipulation not persuasion is what counts. The tactic must be devised to evolve along with the situation, and must therefore be constantly revised according to the propensity at work. Thus a disposition is effective by virtue of its renewability and does not have to be decisive and direct. There is no finality. Rather, 'the fundamental objective of all tactics is to ensure that dynamism continues to operate to one's advantage' (Jullien, 1995, p34) and that the hands of an opponent are tied by the situation. All reality is a deployment, a continuous deployment.

Reality was not regarded as a problem but presented itself from the beginning as a credible process. It did not need to be deciphered like a mystery but simply to be understood in its functioning. There was no need to project a meaning onto the world or to satisfy the expectations of a subject/individual, for its meaning stemmed in its entirety, without requiring any act of faith, from the propensity of things (Jullien, 1995, pp264-265).

This sense of rightness as a continuous deployment seems to me to encapsulate much of what is now happening in the world, a propensity to and for change that regulates itself as it goes along in a kind of hyper-instrumentality.

### **3.3 Rightness as a Mode of Governance**

As we have seen, tapping into consumer capacities also relies on a model of government that will produce new practices of freedom. This third model may be understood as a dislocated liberalism which performs power-knowledge in novel ways based on the practices of character formation (Joyce, 2003). Above all, this form of power-knowledge is motivated by a fear of stagnation, and is reminiscent of largely forgotten practices of government that individualize personal character and totalize it, practices that were especially popular in Britain and North America from the late eighteenth to the early twentieth century that aimed to govern through the ethical possibilities and constraints of improving 'character' by imposing 'good habits'.

It seems to me that we are seeing something like this form of 'ethological governance' (White, 2005), based on a form of power-knowledge that analyses human character and its formation, recurring through the galvanization of the consumer realm as commodities increasingly use characterological means to communicate themselves. Liu (2004) shows how modern commodities increasingly assume such characterization as a means of providing dramatic unity to an experience. Commodities become directors to and of character and are committed to the goal of self-transformation as part of a more general mimetic model of culture based on the prevalence of media using example rather than discipline, imitation rather than coercion; 'the paradigmatic body of our societies is no longer the mute body moulded by discipline, but rather it is the bodies and souls marked by the signs, words and images (company logos) that are inscribed in us ...' (Lazzarato, 2005, p8).

## **4 Conclusions. 'Always sell hope'<sup>33</sup>.**

In these conclusions, I want to make three points, one procedural, one political and one theoretical. The procedural point has been made many times now but it still bears repeating. That is the increasingly bizarre and bitter disjuncture between a fluid core of producer-consumer practices that mark time and an impoverished periphery in which something close to anarchy often reigns in what is often an extended

battlefield (Nordstrom, 2004) of uncivil wars conducted by sanctioned by decentralized powers – warlords, gangsters, sects – that the modern state was meant to banish. As Keane (1996, p4) puts it;

For citizens living in the so-called democratic zone of peace, alas, the world is not so neatly subdivided into peaceful and violent zones. Nor can it become so, thanks in part to the links between the two worlds forged by global arms production and the violence-ridden drug trades. Mass migrations, pauperization and prejudice also ensure that rootlessness, ethnic tensions, and violent lawlessness are features of nearly every city of the developed world.

The disjuncture is only underlined by the fact that some of the same companies are involved in both worlds, participating in both a new kind of capitalism and in primitive accumulation through their activities in finance, engineering and construction, and the extraction of primary commodities.

And, then there is a political point. At times in this paper, I have come close to depicting a world in which capitalism is a force so strong that what it wishes simply comes in to existence. But that is simply incorrect. There are two ways of reading the developments I have outlined. Certainly, one of these is of capitalism as a leviathan not only making its way in the world largely unimpeded but using all manner of consumers' own passions to stoke the engines a bit more. In other words, what we have here is simply a further depressing episode in what Sheldon Wolin (2000, p20) has called 'inverted totalitarianism, in which economic rather than political power is dominant, in which change and movement has been appropriated for the care and feeding of the brainy classes, and in which what was the political has become pure tactics: 'democracy is embalmed in public rhetoric precisely to memorialize its loss of substance'. This case seems to me to be unarguable.

But I have also stressed another side to these developments. In order to generate more invention and innovation situations have to be designed that are more open-ended and less predictable. For example, to engage more fully with consumers in the ways outlined above requires an acceptance that they will not always do what the producer wants. Since they are often engaged in activities that are their own fulfilment, they may import all manner of other factors, they make unexpected judgements, they may decide that they are in charge, they may even turn on the

producer<sup>34</sup>. And consumer passions do not just run to fan websites. They also run to ethical consumption (Barnett, Cloke, Clarke and Malpass, 2004), to websites and blogs that can be openly and even savagely critical of their object, and to all manner of other fractious communities that want to object to particular commodity associations - or even to the commodity system itself. For example, they may point to the profligate and almost certainly unsustainable expenditures of energy that have arisen with the turn to information and communications technology and suggest design alternatives (Thackara, 2005). There is, in other words, an uncomfortable status quo in a world in which, if 'marketers only real choice is to become more dependent on emotional ties or face ever-dwindling profits' (Atkin, 2004, p199), there is a real danger that emotions do not just buttress a brand but overwhelm it and that co-operation between consumers means working on new forms of co-operation that use commodities in ways that avoid the profit nexus. This explains much of the concern recently with building brand relationships which, in part at least, is defensive, a desperate attempt to build long-term associations by means of symbolic integration and experiential nexus.

Similarly, 'open innovation' cannot only be seen as one of the next big management fads but also as a means of challenging current property regimes by building new kinds of creative commons through a wider culture of knowledge. In other words, some commentators argue that a democratization of innovation is occurring which enhances overall and not just corporate welfare (Von Hippel, 2005, Lessig, 2005). I suspect that, overall, the amount of ambiguity and unexpectedness in the system will increase making the system appear to both producers and consumers as more 'alive' than ever before.

The theoretical point follows on. It is interesting to consider the main currents of thought that are currently prevalent in social theory and appropriate to register a certain amount of discomfort. One current consists of a reconsideration and reworking of vitalism. Another is a growing interest in the intermingling of human and material and most especially the increasing power of the scaffolding provided by a legion of objects. Still another is a revival of systems thinking but flattened and made communicative. I do not believe that this emphasis on onflow (Pred, 2005) is a coincidence.

Whilst it would be going too far to say that social theory simply runs in lockstep with what is happening in the world, neither, by definition, can it just ignore it. I would

claim that much of modern social theory is, in fact, a meditation on the kind of world - and the increasingly problematic nature of human experience (in the sense of both 'human' and 'experience') of that world – that I have sketched out in this paper.

Increasingly, that world is being constructed by business, and furthermore by a business that uses theory as an instrumental method, as a source of expertise and as an affective register to inform an everyday life that is increasingly built from that theory<sup>35</sup>. Yet, still, too few social theorists seem willing to recognise that fact or to consider what it might mean for the practice of social theory. They prefer bracketing off business as an other which is to be deplored and then largely ignored. This must surely be dangerous when it can be argued that theory, in its attempt to be fast-moving and productive, is increasingly trying to mimic the very forces that may endanger it.

This paper argues, in contrast, that what is now going on in business is intended to populate nearly every event with content that has some commercial resonance and, understood in a broad sense, gain through a general redefinition of what counts as value. Capitalism is carpeting expectation and capturing potential. Simple condemnation of this tendency, as if from some putative outside, or, alternatively, embracing it as a part of some continuously fluid and overarching vitalist order, will not do. Rather, it seems to me to call for radically new imaginings of exactly how things are, but under a new aspect that we can currently only glimpse; 'a tune beyond us, yet ourselves', as Wallace Stevens (1967, p133) put it<sup>36</sup>.

## **Acknowledgements**

I would like to thank Ash Amin and David Stark for their helpful comments on this paper.

<sup>1</sup> I know that discussions did take place in at least one health authority about the possibility of sending UK patients to India but the political risks were thought to be too high.

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<sup>3</sup> There are obvious resonances here with Virno's (2004) notion of the installation of a 'communism of capital' here. I prefer to keep them that way since I am sceptical that that is exactly what has happened.

<sup>4</sup> However, as I will make clear, this is not just a case of opening up new 'fishing grounds', to use market research parlance. It is a change in how the commodity itself is conceived.

<sup>5</sup> The speed of this onset is almost certainly the result of the cultural circuit of capital which is able to circulate theories at an accelerated rate showing, once again, that theory has increasingly transmuted into method, a method of producing maximum connectivity with the minimum of material. What we see is theory becoming a second nature but that theory is of an attenuated, instrumental kind.

<sup>6</sup> It is not at all clear that this new world is restricted to the traditional Western economic core, not just because parts of countries like China and India are booming but because, in the light of considerable information and communications technology take-up, they are seeing some of the same phenomena. For example, consumer communities are booming in China, based around websites like AliBaba (or at least its e-Bay like subsidiary, TaoBao) and EasyReach. Significantly, both of these have recently been subject to Western equity buy-ins.

<sup>7</sup> It is a profitable exaggeration at this moment in time, since it can be retailed as a problem to which consultants can find solutions.

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<sup>9</sup> This is not to say that capitalism has not attempted to use the structure of forethought. One thinks just of Packard's (1960) The Hidden Persuaders and the general panic in the 1950s and 1960s about the subliminal powers of advertising.

<sup>10</sup> This work often focussed on various kinds of practical organizational knowledge, for example, influencing and co-operating with others.

<sup>11</sup> The resort to neuroscience may be partly to do with management writers' need to seek out credibility by associating themselves with science but it is not just rhetorical (Hill, 2003).

<sup>12</sup> See, for example, Miller's (1998) exposition of love as a key element of shopping.

<sup>13</sup> For example, see the various emotional instruments used by the advertising, market research and human resources industries, as in, for example, Goleman's Emotional Competence Inventory, widely retailed by the Hay Group as a means of evaluating individuals and organizations.

<sup>14</sup> Of affects, concepts and percepts all built into particular environments.

<sup>15</sup> A factor that has become much more important as the speed of production processes has increased.

<sup>16</sup> See the comments by Callon and Muniesa (2005) concerning new forms of calculation brought into being by devices like information technology.

<sup>17</sup> The use of the diminutive here is no doubt suspect, given that three decades of research on consumption have show just how rich a field of cultural practice it is.

<sup>18</sup> Though by no means all: many products have become simpler or so difficult to operate on that they require professional intervention (eg many repairs of automobile electronics).

<sup>19</sup> Indeed, Kellogg's has patented its cornflake crunch.

<sup>20</sup> As in the Stefan Floridian Waters aroma used by Singapore Airlines, a scent formerly used in flight attendants' perfume that has now been extended right across the airline experience, from the hot towels before take-off to the cabin air freshener (Lindstrom, 2005).

<sup>21</sup> For example, see the Volvo YCC (Your Concept Car) Project: a car made for women by women which includes all kinds of sensory cues that are taken to be gender-specific.

<sup>22</sup> For example, the effectiveness of direct marketing is falling. In the UK, direct mailing campaigns now have a response rate of only 1.61 per cent.

<sup>23</sup> These building forms are not restricted to the biosciences, of course. For example, the Isaac Newton Centre at Cambridge is dependent on the same idea of high interaction.

<sup>24</sup> Although, at none of them could I find systems that go as far as some commercial organizations. For example, some IT firms search the hard drives and e-mails of their researchers for evidence of ideas and interests that can be sent on to others in the organization.

<sup>25</sup> Notice the similarity to what is found now in a number of organizations (see Storey and Salaman, 2005).

<sup>26</sup> Though it is taken from Marx, I am not myself keen on this terminology which nowadays has too many associations with the idea of some immaterial, virtual realm conjured up by information and communications technology.



<sup>27</sup> The analogy with the media is a good one. Not only does play back involve media models but more and more of experience is mediatized.

<sup>28</sup> This does not mean that all kinds of perception are not outside consciousness: perception is a wide-ranging faculty. But it means that perception is, in part at least, arranged according to

<sup>29</sup> These conceptual determinations assume a variety of capacities which trace out what matters: in turn, they therefore assume a particular materiality which reciprocally confirms those determinations. And, in part, they bring that materiality into existence by arranging time and space so that they produce the requisite followings-on (percepts) which themselves confirm that particular existence. They also assume a particular self-efficacy, a belief in the abilities of what counts as a person which depends precisely on what those abilities are supposed to be and what their supposed consequences are (Bandura, 1997).

<sup>30</sup> Ways which are closer to a musical score than an old-fashioned calculating machine. As I have pointed out elsewhere (Thrift, 2005), these latter functions are now so widespread that they have simply become part of the background.

<sup>31</sup> In certain senses, these three models echo Tarde's three forms of value.

<sup>32</sup> See Virno (2004) on opportunism as a technical virtue.

<sup>33</sup> Hill, 2003, p42. Business can do Bloch too.

<sup>34</sup> Hence, for example, multinationals' increasing interaction with non-governmental organizations. They need to know what criticisms are coming up.

<sup>35</sup> Indeed, it is possible to argue that theory is itself becoming a source of affect.

<sup>36</sup> Hence my warm support for all kinds of collaborations between artists and social scientists.

## References

**Adkins, L.** (2005) 'The new economy, property and personhood', *Theory Culture and Society*, 22: 111-130.

**Amin, A.** (2004) 'Regulating economic globalization', *Transactions of the Institute of British Geographers*, NS29: 217-233.

**Atkin, D.** (2004) *The Culting of Brands. When Customers Become True Believers*, New York: Portfolio.

- Barletta, M.** (2002) *Marketing to Women*, New York: Dearborn.
- Barnett, C., Cloke, P., Clarke, N. and Malpass, A.** (2004) 'Consuming ethics: articulating the subjects and spaces of ethical consumption', *Antipode* 37 (1): 23-45.
- Bayart, J.** (2001) 'The paradoxical invention of economic modernity' in A. Appadurai (ed.) *Globalization*, Durham, NC: Duke University Press, pp. 307-334.
- Benjamin, W.** (1938/1977) 'The Paris of the Second Empire' in Charles Baudelaire: *A Lyric Poet in the Second Empire*, London: New Left Books.
- Bennett, J.** (2004) 'Steps toward an ecology of matter', *Political Theory* 32: 347-372.
- Berardi, F.** (2005) 'Biopolitics and connective mutation', <http://culturemachine.tees.ac.uk/Articles/bifo.htm>
- Best, J.** (2005) *The Limits of Transparency. Ambiguity and the History of International Finance*, Ithaca: Cornell University Press.
- Braudel, F.** (1977) *Afterthoughts on Material Civilization and Capitalism*, Baltimore: Johns Hopkins University Press.
- Brenner, R.** (2003a) 'Towards the precipice', *London Review of Books*, 6<sup>th</sup> February.
- Brenner, R.** (2003b) *The Boom and the Bubble. The US in the World Economy*, London: Verso.
- Burt, R.** (2005) *Trust, Reputation, and Competitive Advantage*, New York: Oxford University Press.
- Brynjolfsson, E., Hu, Y. and Smith, M.D.** (2003) 'Consumer surplus in the digital economy: estimating the value of increased product variety at online bestsellers', *Management Science* 49: 1580-1596.
- Callon, M., Meadel, C. and Rabearisoa, V.** (2002) 'The economy of qualities', *Economy and Society* 31: 194-217.

**Callon, M. and Muniesa, F.** (2005) 'Economic markets as calculative collective devices', *Organization Studies* 26: 1229-1250.

**Casciaro, T. and Lobo, M.S.** (2005) 'Competent jerks, lovable fools, and the formation of social networks', *Harvard Business Review*, 1 June.

**Chesbrough, H.** (2003) *Open Innovation. The New Imperative for Creating and Profiting from Technology*, Boston: Harvard Business School Press.

**Clark, G. and Tickell, A.** (eds) Special issue on global standards, *Environment and Planning A*, (forthcoming).

**Critchley, S.** (2005) *Things Merely Are. Philosophy in the Poetry of Wallace Stevens*, London: Routledge.

**Cusunamo, M., McCormack, A., Kemerer, C.F. and Crandall, W.** (2003) A global survey of software development practices, Paper 178, Center for eBusiness@MIT, Sloan School of Management, MIT.

**Donald, M.** (2001) *A Mind So Rare. The Evolution of Human Consciousness*, New York: Norton.

**Dourvish, P.** (2001) *Where the Action Is. The Foundations of Embodied Interaction*, Cambridge, Mass.: MIT Press.

**Duffy, F.** (1997) *The New Office*, London: Conran Octopus.

**Economist** (2005a) 'In search of stealth', *The Economist*, 21<sup>st</sup> April: 56-57.

**Economist** (2005b) 'Overdue and over budget, again and again', *The Economist*, 11<sup>th</sup> June: 65-66.

**Franz, K.** (2005) *Tinkering. Consumers Reinvent the Early Automobile*, Philadelphia: University of Pennsylvania Press.

**Frow, J.** (1997) *Time and Commodity Culture. Essays in Cultural Theory and Postmodernity*, Oxford: Oxford University Press.

**Galison, P. and Thompson, P.** (eds) (1999) *The Architecture of Science*, Cambridge, Mass.: MIT Press.

**Gladwell, M.** (2005) *Blink. The Power of Thinking without Thinking*, London: Allen Lane.

**Harvey, D.** (2003) *The New Imperialism*, Oxford: Oxford University Press.

**Hill, D.** (2003) *Body of Truth. Leveraging What Consumers Can't or Won't Say*, Hoboken, NJ: John Wiley.

**Ind, N.** (ed.) (2003) *Beyond Branding*, London: Kogan Page.

**Joyce, P.** (2003) *The Rule of Freedom. Liberalism and the Modern City*, London: Verso.

**Keane, J.** (1996) *Reflections on Violence*, London: Verso.

**Kern, S.** (2004) *A Cultural History of Causality. Science, Murder Novels, and Systems of Thought*, Princeton: Princeton University Press.

**Kwinter, S.** (2001) *Architectures of Time. Toward a Theory of the Event in Modernist Culture*, Cambridge, Mass.: MIT Press.

**Latour, B.** (2005) *Reassembling the Social. An Introduction to Actor-Network Theory*, Oxford: Oxford University Press.

**Lazzarato, M.** (2002) *Puissances de L'Invention. La Psychologie Economique de Gabriel Trade contre L'Économie Politique*, Paris: Seuil.

**Lazzarato, M.** (2002) *Videophilosophie. Zeitwahrnehmung im Postfordismus*, Berlin: B\_Books.

**Lazzarato, M.** (2005) 'Struggle, event, media', Department of Sociology, Goldsmiths.

**Lazzarato, M.** (2005) 'Invention et travail dans la coopération entre **cervaux**'

**Lee, B. and Lipuma, E.** (2000) 'Cultures of circulation: the imaginations of modernity', *Public Culture* 14: 191-213.

**Lessig, L.** (2005) 'Do you floss?' *London Review of Books*, 18<sup>th</sup> August, 24-25.

**Lindstrom, M.** (2005) *Brand Sense. How to Build Powerful Brands through Touch, Taste, Smell, Sight and Sound*, London: Kogan Page.

**Liu, A.** (2004) *The Laws of Cool. Knowledge Work and the Culture of Information*, Chicago: University of Chicago Press.

**Livingstone, D.** (2003) *Spaces of Science*, Chicago: University of Chicago Press.

**Lukacs, G.** (1980) *The Destruction of Reason*, London: Merlin Press.

**Lury, C.** (2004) *Brands. The Logos of the Global Economy*, London, Routledge.

**Lury, C.** (2005) 'Contemplating a self-portrait as a pharmacist: a trade mark style of doing art and science', *Theory Culture and Society* 22: 93-110.

**McCullough, M.** (2004) *Digital Ground. Architecture, Pervasive Computing, and Environmental Knowing*, Cambridge, Mass.: MIT Press.

**Mokyr, J.** (2002) *The Gifts of Athena*, Princeton: Princeton University Press.

**Miller, D.** (1998) *A Theory of Shopping*, Cambridge: Polity Press.

**Mitchell, T.** (2002) *Rule of Experts. Egypt, Techno-Politics and Modernity*, Berkeley: University of California Press.

**Mitchell, W. J.** (2005) *Placing Words. Symbols, Space and the City*, Cambridge, Mass.: MIT Press.

**Molotch, H.** (2003) *Where Stuff Comes From*, New York: Routledge.

**Moore, H.** (2004) 'Global anxieties. Concept-metaphors and pre-theoretical commitments in anthropology', *Anthropological Theory* 4: 71-88.

**Myers, G.** (2002) *Intuition. Its Powers and Perils*, New Haven: Yale University Press.

**Neff, G.** and **Stark, D.** (2003) 'Permanently beta: responsive organization in the internet era', in P.E.N. Howard and S. Jones (eds) *The Internet and American Life*, Thousand Oaks, CA: Sage.

**Negri, A.** (1991) *Marxism after Marx*, London: Pluto Press.

**Nordstrom, C.** (2004) *Shadows of War. Violence, Power and International Profiteering in the Twenty-First Century*, Berkeley: University of California Press.

**Norretranders, T.** (1998) *The User Illusion. Cutting Consciousness Down to Size*, New York: Viking.

**Packard, V.** (1960) *The Hidden Persuaders*, Harmondsworth: Penguin.

**Peek, P.M.** (1991) *African Divination Systems*, Bloomington, Indiana: Indiana University Press.

**Prahalad, C.K.** and **Ramaswamy, V.** (2004) *The Future of Competition*, Boston: Harvard Business School Press.

**Pine, B.J.** and **Gilmore, J.H.** (1999) *The Experience Economy. Work is Theatre and Every Business a Stage*, Boston: Harvard Business School Press.

**Pred, R.** (2005) *Onflow. Dynamics of Consciousness and Experience*, Cambridge, Mass.: MIT Press.

**Retort** (2005) *Afflicted Powers. Capital and Spectacle in a New Age of War*, London: Verso.

**Rhoten, D.** (2003) *A Multi-Method Analysis of the Social and Technical Conditions for Scientific Collaboration*, San Francisco: Hybrid Vigor Institute.

**Roberts, J.** (2004) *The Modern Firm. Organizational Design for Performance and Growth*, Oxford: Oxford University Press.

**Stevens, W.** (1960) *The Necessary Angel. Essays on Reality and the Imagination*, London: Faber.

**Storey, J. and Salaman, G.** (eds) *Managers of Innovation. Insights into Making Innovation Happen*, Oxford: Blackwell.

**Storper, M. and Venables, A.J.** (2004) 'Buzz: face-to-face contact and the urban economy', *Journal of Economic Geography* 4: 351-370.

**Tarde, G.** (1902) *Psychologie Économique*, Paris.

**Thackara, J.** (2005) *In the Bubble. Designing in a Complex World*, Cambridge, Mass.: MIT Press.

**Thomke, S. H.** (2003) *Experimentation Matters. Unlocking the Potential of New Technologies for Innovation*, Boston: Harvard Business School Press.

**Thrift, N.J.** (2005) *Knowing Capitalism*, London: Sage.

**Toscano, A.** (2004) 'Factory, territory, metropolis, empire', *Angelaki* 9: 197-216.

**Tsing, A.** (2005) *Friction. An Ethnography of Global Connections*, Princeton: Princeton University Press.

**Tufte, E.R.** (2003) *The Cognitive Style of Powerpoint*, New York: Graphics Press.

**Virno, P.** (2004) *A Grammar of the Multitude*, New York: Semiotext(e).

**Von Hippel, E.** (2005) *Democratizing Innovation*, Cambridge, Mass.: MIT Press.

**Weinstein, M.** (ed.) (2005) *Globalization. What's New?* New York: Columbia University Press.

**West, H.G. and Sanders, T. (eds) (2003) Transparency and Conspiracy. Ethnographies of Suspicion in the New World Order, Durham, NC: Duke University Press.**

**Wolin, S. (2000) 'Political theory: from vocation to invocation', in J. Frank and J., Tamborino (eds) Vocations of Political Theory, Minneapolis: University of Minnesota Press, pp. 3-22.**

**Wright, S. (2002) Storming Heaven. Class Composition and Struggle in Italian Marxism, London: Pluto Press.**

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<sup>9</sup> This is not to say that capitalism has not attempted to use the structure of forethought. One thinks just of Packard's (1960) The Hidden Persuaders and the general panic in the 1950s and 1960s about the subliminal powers of advertising.

<sup>10</sup> This work often focussed on various kinds of practical organizational knowledge, for example, influencing and co-operating with others.

<sup>11</sup> The resort to neuroscience may be partly to do with management writers' need to seek out credibility by associating themselves with science but it is not just rhetorical (Hill, 2003).

<sup>12</sup> See, for example, Miller's (1998) exposition of love as a key element of shopping.

<sup>13</sup> For example, see the various emotional instruments used by the advertising, market research and human resources industries, as in, for example, Goleman's Emotional Competence Inventory, widely retailed by the Hay Group as a means of evaluating individuals and organizations.

<sup>14</sup> Of affects, concepts and percepts all built into particular environments.

<sup>15</sup> A factor that has become much more important as the speed of production processes has increased.

<sup>16</sup> See the comments by Callon and Muniesa (2005) concerning new forms of calculation brought into being by devices like information technology.



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- <sup>17</sup> The use of the diminutive here is no doubt suspect, given that three decades of research on consumption have show just how rich a field of cultural practice it is.
- <sup>18</sup> Though by no means all: many products have become simpler or so difficult to operate on that they require professional intervention (eg many repairs of automobile electronics).
- <sup>19</sup> Indeed, Kellogg's has patented its cornflake crunch.
- <sup>20</sup> As in the Stefan Floridian Waters aroma used by Singapore Airlines, a scent formerly used in flight attendants' perfume that has now been extended right across the airline experience, from the hot towels before take-off to the cabin air freshener (Lindstrom, 2005).
- <sup>21</sup> For example, see the Volvo YCC (Your Concept Car) Project: a car made for women by women which includes all kinds of sensory cues that are taken to be gender-specific.
- <sup>22</sup> For example, the effectiveness of direct marketing is falling. In the UK, direct mailing campaigns now have a response rate of only 1.61 per cent.
- <sup>23</sup> These building forms are not restricted to the biosciences, of course. For example, the Isaac Newton Centre at Cambridge is dependent on the same idea of high interaction.
- <sup>24</sup> Although, at none of them could I find systems that go as far as some commercial organizations. For example, some IT firms search the hard drives and e-mails of their researchers for evidence of ideas and interests that can be sent on to others in the organization.
- <sup>25</sup> Notice the similarity to what is found now in a number of organizations (see Storey and Salaman, 2005).
- <sup>26</sup> Though it is taken from Marx, I am not myself keen on this terminology which nowadays has too many associations with the idea of some immaterial, virtual realm conjured up by information and communications technology.
- <sup>27</sup> The analogy with the media is a good one. Not only does play back involve media models but more and more of experience is mediatized.
- <sup>28</sup> This does not mean that all kinds of perception are not outside consciousness: perception is a wide-ranging faculty. But it means that perception is, in part at least, arranged according to
- <sup>29</sup> These conceptual determinations assume a variety of capacities which trace out what matters: in turn, they therefore assume a particular materiality which reciprocally confirms those determinations. And, in part, they bring that materiality into existence by arranging time and space so that they produce the requisite followings-on (percepts) which themselves confirm that particular existence. They also assume a particular self-efficacy, a belief in the abilities of what counts as a person which depends precisely on what those abilities are supposed to be and what their supposed consequences are (Bandura, 1997).
- <sup>30</sup> Ways which are closer to a musical score than an old-fashioned calculating machine. As I have pointed out elsewhere (Thrift, 2005), these latter functions are now so widespread that they have simply become part of the background.
- <sup>31</sup> In certain senses, these three models echo Tarde's three forms of value.
- <sup>32</sup> See Virno (2004) on opportunism as a technical virtue.
- <sup>33</sup> Hill, 2003, p42. Business can do Bloch too.
- <sup>34</sup> Hence, for example, multinationals' increasing interaction with non-governmental organizations. They need to know what criticisms are coming up.
- <sup>35</sup> Indeed, it is possible to argue that theory is itself becoming a source of affect.
- <sup>36</sup> Hence my warm support for all kinds of collaborations between artists and social scientists.