



Popping the bubble: The ethical responsibility of design

Carleton B. Christensen

Issue 2, 2006

That designers ought to consider ethical and political consequences when deciding what projects to undertake and how to undertake them is uncontentious. In this sense, any occupational activity, from taxidermy to taxi-driving, is inherently ethical and political. Almost as uncontentious is the claim that designers, by virtue of their professional skills, have a distinctive capacity, hence stand under a distinctive obligation, to help humanity rather simply enrich themselves. Analogously, doctors, by virtue of their distinctive medical skills, have a distinctive capacity, hence obligation, to help humanity, say, by working pro bono, or even devoting some part of their professional lives to such organisations as *médecins sans frontières*.

Some design theorists, however, have attempted to show that design is ethical and political in a stronger sense: designers have a unique contribution to make towards solving the numerous problems our modern society confronts as a whole and therefore stand under a unique ethical obligation to conduct their professional activity – to provide their distinctive service to their clients – in ways which enhance this larger political, indeed emancipatory agenda. Unlike the uncontentious claims just considered, this is a claim about designers as designers and not just as beings who, being capable of attending self-consciously to the consequences of their decisions and actions, can be ethically required thus to attend. Rather, the claim concerns design itself, as a profession or practice: this is conducted ethically in direct proportion to whether the way in which it is conducted redresses or exacerbates larger socio-political ills. And underlying this claim is the assumption that the activity of design is in general able to be conducted in a way which either redresses or exacerbates these larger ills, thereby serving or diserving the cause of humanity in general even as it serves the cause of its particular clients. Precisely this assumption shows how strong the claim is since one would not be tempted to make any similar assumption about medicine or law. Only if the person or circumstances were very special would the activity of curing or defending this person so serve or disserve larger, ethically desirable ends that one could require it to be conducted in whatever ways realised these ends.

This paper will argue that John Thackara's attempt (in Thackara 2005) to identify and motivate a sense in which design is inherently ethical and political in this strong sense is misconceived. At the same time, it will attempt to identify what Thackara is seeing through a glass but darkly when he makes such strong claims for design. A careful reading of Thackara's text reveals that what he concretely says does not genuinely distinguish any sense in which design is ethically responsible stronger than the two comparatively anodyne senses indicated initially. As we shall see, this failure derives



from a fundamental inability clearly to identify just where properly to address the demand for ethically responsible design.

Thackara's argument

Throughout his book Thackara illustrates how the materials and energy intensity characteristic of modern society has engendered a whole series of uniquely serious, interconnected environmental and social problems, from loss of biodiversity to loss of community and social connection. He also points out how the complexity of the technological systems through which these massive quantities of matter and energy flow can make it appear that things are 'out of control', so much so that we no longer 'have the bubble' – the ability to synthesise out of diverse streams of information about a system's operating environment a coherent overall picture of what is going on which permits us to identify threats to, or to seize opportunities for, effective operation as they arise, possibly quite unprecedentedly.[1] (See, e.g., p.1) Yet he argues that this appearance is not reality: we have designed the technological systems out of which our society is composed and so, "(i)f we can design our way into difficulty, we can design our way out." (p.1)

Specifically, we must now design mindfully (pp.7-8), that is, in full consciousness of the parlous, bubble-eroding situation into which unthinking design can bring us. Such mindful design will enable us to find answers to the problems we have created, answers which preserve the virtues of the modern socio-economic and technological system while eliminating its vices.

So when Thackara claims "that ethics and responsibility can inform design decisions without constraining the social and technical innovation we all need to do" (p.7), he is indeed not making the comparatively uncontentious point that designers have an obligation to use their distinctive skills when off-duty or on leave in efforts to solve larger socio-political problems of the kind indicated. Rather, the ethics and responsibility at issue are to manifest themselves in professional activity; this is to be conducted in such a mindful way that the larger issues are also addressed. The designer is to aim at fulfilling the design brief in such a way that the items designed (products, services, structures, infrastructures, etc.) constitute cures (or parts thereof) to wider socio-political ills (or at least do not further entrench them).

Of course, this conception immediately throws up two questions: firstly, why have designers not thus far recognised, much less attempted to realise, this strong obligation? Secondly, how exactly are they to realise this obligation? For Thackara, the answers to these questions are linked. Designers have thus far failed to recognise this strong obligation because they have been hamstrung by "(t)raditional design thinking." (p.213) Traditional design thinking has blinded designers to the powerful political capacity of design. In consequence, it has blinded them to the distinctive ethical obligation imposed by this capacity upon designers as designers. Once, however, one (a) appreciates that design has thus far been constrained by a certain traditional mind-set (for which reason it has partly contributed to our current, parlously 'bubbleless' state); and (b) identifies what



this traditional mind-set is, an alternative conception of design will become apparent, so to speak by negation of the old. This alternative conception of design will provide the answer to the second question, that is, indicate how designers are to realise or operationalise their distinctively strong ethical responsibility.

Thackara characterises traditional design thinking by breaking it down into seven features, simultaneously juxtaposing to each feature its counterpart in the new conception of design – see pp.213-225. These seven features and their counterparts are, respectively:

1. Blueprint and plan versus Sense and respond
2. High concept versus Deep context
3. Top-down design versus Seeding edge effects
4. Blank sheets of paper versus Smart recombination
5. Science fiction versus Social fiction
6. Designing for people versus Designing with us
7. Design as project versus Design as service

Inspection of the text reveals two things: firstly, each even juxtaposition merely elaborates the odd one preceding it; and secondly, the final juxtaposition merely summarises the conception of design implicit in the new design mind-set represented by the right hand sides of the previous juxtapositions and contrasts it with the conception implicit in the traditional mind-set represented by the left hand sides.

What Thackara means by this list of features can therefore be summarised as follows: rather than designing in the sense of providing a complete blueprint which attempts to anticipate in advance all likely significant contingencies and consequences, we should design incrementally, in small steps, which partial solutions we can test in situ and with the help of those intended to use the design, then refine in the light of the feedback received. In this process, we should display a willingness to learn from all comers, whatever their professional, cultural and historical backgrounds; not innovation, which is often likely to be mere re-invention, but smart recombination of what has already been invented, must be our priority. Furthermore, we must avoid foisting upon the user technologically over-complex solutions (science fiction), but rather involve the user in the design process since in this way we will more readily envisage more socially sensitive solutions with less undesirable unintended consequences (social fiction). Finally, these desiderata together imply that design is not a matter of providing some one final and complete answer to a brief, but rather of initiating and facilitating a process in which the final and complete answer is found in part by those who are to use it and indeed through their attempts to use prototypes of it.



Critique of Thackara's argument

In maintaining that designers are ethically obliged to conduct their profession in a manner which redresses larger socio-political and environmental problems, Thackara has tacitly assumed[2] that designers are actually able to do this. This assumption is dubious in two respects.

Firstly and obviously, it is not true that designers have only failed to design in emancipatory fashion because they have not seen the potential of design. The weakness in Thackara's position here is precisely that displayed by natural capitalists, whom Thackara regards as comrades in arms. Natural capitalists are apt to adduce the example of Jan Schilham, a Dutch production engineer who, in the design of an industrial plant, was able to reduce pumping friction, hence energy expenditure, by almost an entire order of magnitude.[3] According to the natural capitalists, Schilham was able to accomplish this because he had adopted whole-systems design thinking of the kind recommended by natural capitalists and, under a somewhat different name, by Thackara as well. (See, e.g., pp.16-17) But this explanation is at best naïve: the real reason why Schilham could do what he did was that he was working for Interface Inc., whose CEO Ray Anderson had, for ethical reasons, already committed himself and the company to the upfront costs of such superior design. Insight on the designer's part into novel, emancipatory possibilities of design was certainly necessary, but it was not sufficient.

Thus, not absence of "change of design mentality"[4] explains why conventional designers do not do what Schilham did. The true explanation lies in the real constraints to which most designers, in the conduct of their design activity, are subject most of the time. And it would be question-begging to conclude that this only shows that the authors of the brief, rather than designers, are in the grip of a false mind-set. In fact, as a rule, if not in all individual cases, acting as Ray Anderson did in permitting Schilham to design as he did would have precisely the consequences most authors of design briefs fear: individual disadvantage and even destruction, however much both designers and their clients are aware of alternatives better from an ethical and political perspective. The real context in which real design must always occur is frequently such that design can only accomplish its objectives at the cost of numerous undesirable unintended (which is not to say unknown) consequences. As things currently stand, most designers of pumping systems mostly install pipes too thin, too long or too bent not because they do not know what Schilham knew, but because in the majority of cases such ad hoc, "off the shelf" solutions are the only ones realistically available.

Secondly, less obviously and more importantly, the insinuation throughout Thackara's text that designers have only to be 'mindful' in order to identify novel possibilities for re-designing existing arrangements in an emancipatory direction is false. Moreover, his failure to see not just that but why it is false reveals that he does not really understand the point lying behind his own observation that our modern, technologically complex society militates against having the bubble. Thackara gives the following examples of designers creatively exploring ways in which technology of the kind which might otherwise



exacerbate our sense and condition of not having the bubble might be used to restore it to us:

Researchers at the Interaction Design Institute Ivrea in Italy, for example, think the mobile phone can function as a kind of remote control that activates interfaces in our surroundings in urban and public space. You head for a bus stop knowing that your bus will arrive in four minutes. Once there, you summon up your personal Web page on one of the bus stop's display panels. (J. C. Decaux and Viacom Outdoors manage tens of millions of such urban surfaces: They can run the infrastructure.) Or why not use the printers in automated teller machines (ATMs) to print out copies of text messages sent to your mobile phone? Among more than forty scenarios for using the phone in conjunction with public space developed by the Ivrea team is Sonic Hub, a street bench that doubles as a private communication space. When a person is called, he can sit down on a Sonic Hub bench and continue his call through the bench speaker system, rather than through the phone. (p.83)

One could well imagine how such fascinating exercises in design might enable more possession of the bubble. Equally, however, one could imagine how such hyper-connectedness could have quite the opposite effect, that is, further undermine an individual's sense of being in control of his life. It all depends on the larger socio-economic, political, legal and technological context in which such scenarios and the technological devices involved in them occur. However many scenarios for using the phone in conjunction with public space one might come up with, all will display this ambiguity. Nor will it do to suggest that one could design this ambiguity out by extending the design exercise outwards, so that the scenario comes to encompass more and more of the context in which it occurs. (Thackara seems on the verge of this kind of response when he says, a page earlier, "Deciding who gets to use these new tools is itself a design action." (p.82))

The lesson implicit here applies to all Thackara's examples of how designers might design 'mindfully', that is, in ways which resist rather than reinforce the negative features of modern society. It is, for example, not at all obvious why the answer to loss of identity and local difference should lie "...in webs, chains, and networks of cities and regions." (p.80) According to Thackara, smaller, localised ways of life and tradition can preserve themselves "(b)y aggregating their hard and soft assets" through modern communications technology, thereby forming "collective cities – multi-centered cities" (p.80) which

can match the array of functions and resources of centers while still (in theory) delivering superior social quality. The ability of small cities to offer a context that supports intimacy and encounter – what the French call *la vie associative* – is where small-city webs will win out over the big centers. (p.80)

No doubt such webs, chains and networks could felicitously synthesise the features of the large and the local. But precisely because this is true "in theory" only, chains and networks need not be so felicitous. Nothing about design of the kind which distinguishes something as a collective or multi-centred city guarantees that what bears the design is



such a happy synthesis.[5] So nothing about the activity of creating this design is inherently emancipatory or liberating in the way Thackara imagines. It is entirely a matter of context, of the concrete circumstances in which the design is realised, over which designers have no more (or less) capacity, hence obligation to dispose than anyone else. It would therefore seem that designers have no more (or less) capacity and obligation than anyone else to re-arrange, through judicious use of the available technological means, the objective circumstances of modern life in such a way that its distinctively modern ills are overcome (or at least ameliorated). If, however, this is so, then Thackara's central claim, namely, that designers have a unique capacity, hence unique responsibility, to address these ills, is false.

To this Thackara might respond as follows: of course the implementation of one and the same design can have very different effects, depending on the context in which it is realised. Precisely for this reason the list of seven features which constitute an alternative design mind-set includes participation in the design process of those who will use, or be affected by, the items designed. Such participative design is particularly applicable in the design of services and so Thackara maintains that "the open-source movement, in which a new collaborative approach, uniquely adapted to the Internet, has enabled the development of high-quality [software and Internet] infrastructure ... is now spreading to other domains." (p.221) In general, claims Thackara,

a collaborative or open model [of design, which according to Thackara would constitute part of the new design mind-set required] implies mass participation in creation of a service or situation. A new kind of immersive innovation emerges as the functional divisions between users and producers of a service become blurred. (p.222)

Yet this response does not grapple with the real issue.[6] True, involvement in the design process of those affected by the implementation of design will in principle give access to local knowledge. It will also in principle display respect for local sensitivities. So it will no doubt often secure a design with less unintended negative consequences, at least for those whose local knowledge has been accessed, whose local sensitivities have been respected. Presumably, then, it will often come up with left-of-field solutions superior to those which designers might have found had they worked on their own. But this does not alter the point that no design, however collaboratively, openly or participatively accomplished, can so fix its implementation that its designers can rationally claim to have designed out the kinds of unintended consequence characteristic of the implementation of modern designs, whose power and complexity permits their implementation to ramify widely and quickly in significant but unanticipated ways.

In general, designing-with, as opposed to the allegedly old attitude of designing-for (p.220ff.), does not really address the issue raised by the second respect in which it is dubious to maintain that designers are able to redress larger issues in and through their design activity. Furthermore, since of the seven features constitutive of Thackara's new design mind-set this is the only one which conceivably could address the issue, the new design mind-set as a whole is oblivious to this issue. Thackara simply does not see what,



in a Gadamerian spirit, one might call the problem of application for design. Yet precisely this is the issue raised by the potential of powerful and complex designs to ramify widely and in unanticipated ways. It is therefore this issue which Thackara is really getting at when he speaks of how, in modern societies, individuals suffer loneliness, powerlessness, anonymity, stress due to excessive haste, loss of trust, loss of physical intimacy, self-absorption and narcissism, loss of identity, etc.

That this is so is confirmed by a simple consideration: in one way, there is nothing new about the individual ills just listed; they have been experienced since time immemorial. Similarly, there have always been such objective ills as ecological crisis, deepening socio-economic inequalities, social and political homogenisation, etc.: the destruction of the Euphrates-Tigris river basin in Mesopotamia, massive socio-economic inequalities prior to the French Revolution, the loss of local identities during Roman occupation, etc., etc. Yet Thackara clearly wants to capture something distinctively modern when he points to such ills as features of modern society. What, then, could he be getting at? What today could give these ills a distinctively modern bite? This is surely their character as arising, to a hitherto unprecedented extent, precisely when and because we have carefully deliberated, that is, made every effort to act in well-considered and well-intentioned fashion. Our modern technologies seem to permit us to do so much good – and yet, whenever we employ them in an informed and well-intentioned fashion, we only produce more rather than less of the ills above-mentioned.

The distinctively modern distressingness of our modern ills is therefore their character as apparently showing to be self-defeating our capacity to solve or avoid larger social problems through well-considered and considerate goal-directed activity, at least in the modern world, in which technological sophistication has generated a web of systems, subsystems and system elements so tightly coupled with one another that individual events within one part of the socio-political and economic web ramify too widely and rapidly for any managing bubble to be permanently and consistently possible. That Thackara is getting at this problem is shown by his take-up of Herbert Simon's well-known understanding of the term 'design' as the devising of "... courses of action ... aimed at changing existing situations into preferred ones." (p.1) This characterisation gives such broad meaning to the term that design is de facto identified with practical deliberation. So the problem of contemporary design is in reality the problem of contemporary practical rationality vis-à-vis the larger social issues. That Thackara is indeed getting at the self-defeating character which practical deliberation about larger social whole acquires in modernity is also shown by the way he begins his book: having appealed to the metaphor of having the bubble, he goes on to say, "We're filling up the world with amazing devices and systems ... only to discover that these complex systems seem to be out of control: too complex to understand, let alone to shape, or redirect." (p.1)

Once this point is understood, once, too, it is recognised that the complaint made here is not addressed by prescribing new ways for individual designers or groups thereof to conduct their professional activity, the whole picture changes. One sees that if design is



inherently ethical and political in a sense stronger than the two relatively uncontentious senses outlined at the beginning, then this cannot lie at the level of individual design performance. It is a matter neither of the particular goals set and intentions pursued by the individual designer when engaged in professional activity, nor of the individual designer's mind-set. With this, one can explain why Thackara does not succeed in giving an account of design as ethically obligated which is not simply an account of what designers must do in order to fulfil the obligation they uncontentiously have to conduct their profession in ethically sensitive ways, or again, to use their skills to better humanity's lot. Thackara is looking in the wrong place – this because he does not see clearly what the real problem is and what general form its solution must take.

Variations on a Hegelian Theme

One advance made by Hegelian political philosophy and its descendants, e.g., Marxism, over early modern political philosophy was a clear distinction between society in the sense of a polity and society in the sense of an economy. Government (legislation, policy formation, policy enactment, adjudication of disputes and rectification of wrongs) is primarily there in order to regulate and safeguard political life; only derivatively is it there to regulate and safeguard economic life (since without the latter the former would not exist). Hegel called the polity, i.e., the normatively, axiologically, culturally and traditionally regulated interaction of political actors (in debating, demonstrating, electioneering, lobbying, pamphleteering, etc.), the state (*der Staat*) – to contemporary ears, a misleading terminological choice since we tend today to identify the state with (the legislative and executive aspects of) the government. He called the economy, that is, the legally and prudentially regulated interaction of economic actors, civil society (*die bürgerliche Gesellschaft*) and he regarded it as a particularly rational accomplishment of modernity that these two conceptually distinct notions had become separated out in actual existence, such that as a participant in civil society one acted only according to law and one's own private interest,[7] presupposing the justice of the law and the effectiveness of legal institutions to ensure fairness. When one felt that the law lacked justice or that its institutions failed effectively to ensure fairness, one turned to the polity, becoming an actor therein (and naturally, since the dynamic character of social circumstances could turn justice into injustice, efficacy into inefficacy, one had an ongoing obligation to be ready for political participation and to keep oneself abreast of politics, according to one's abilities and situation in life).

According to Hegel, polity and economy – in his parlance, state and civil society – stood in truly rational relation to one another when the former genuinely regulated the latter, that is, when social circumstances were such that sufficiently many individuals could act, in political as opposed to violently revolutionary fashion, to structure and restructure the laws and institutions which sustained civil society in order to bring its operation into line with socially accepted norms and values. Hegel saw, however, that civil society had an inherent tendency to invert this relationship: it could assume such complexity, its operations could acquire such far-reaching, powerful consequence, that to rectify one



injustice was to create another, to bring about one social good was to undermine another. Under such circumstances, rational consensus about what is and is not the right course of action would become impossible to reach and the polity would be immobilised without some arbitrary exercise of power. Those who lose out, say, because they belong to the wrong class, or to the minority of those democratically polled, or simply do not have enough guns, would just have to grin and bear it, perhaps consoling themselves with the thought that civil war would be a worse outcome.

Since Hegel, this picture has been embroidered and elaborated in different ways, up to and including works such as Thackara's. Nonetheless, the picture contains at least two flaws. Firstly, the advance which the distinction embodies also involves a hidden loss. Hegel's German translation of the English 'civil society', [8] viz., *bürgerliche Gesellschaft*, loses something important in translation: the notion of society as an interaction of individuals directed towards some public interest the realisation of which accomplished civilly, that is, in a manner which reflects and manifests the conviction (a) that each involved in attempts to realise the public interest is by and large as cognitively competent and ethically well-disposed as the others, hence as deserving as the others of being dealt with respectfully and rationally (rather than, say, violently), and (b) that external circumstances are such as to permit each to deal with the other in this way.

Civil society in this sense does not consist in the existence of what these days are called networks since participants in civil society do not participate out of enlightened private interest, but out of a genuinely public interest – the kind of interest which necessarily is realised by and for oneself only if it is realised by and for all. Nor may one confuse civil society with polite society, as the word 'civility' itself might suggest. One can, as the example of networking shows, be polite out of and for the sake of private interest, but, given the characterisation of it just given, one cannot be similarly civil. Civility in the sense intended here is, one might say, politeness born of recognition that the individuals one is engaged with in common pursuit of a public interest are as capable, hence as worthy, of rational and respectful treatment, as oneself. Civil society thus does not necessarily exist simply where there are patterns and practices of courteous networking. Yet precisely because its principles of conduct are notions of civility, civil society is, like occupational networks, an informal phenomenon: necessarily, it finds its place in the interstices of political, economic and cultural institutions.

Because it is an essentially informal phenomenon, participation in civil society involves knowledge of, even experiential acquaintance with, other participants and how they as individuals perform their various roles – how they do their job (namely, by and large well), how they conduct their business (namely, by and large respectably), how they participate in discussions and joint projects (namely, by and large fairly), etc. At the same time, it need not be as local and individual as either circles of friends or family or occupational networks must be. It can have a rather more projective character: not all individuals in civil society need actually be acquainted with one another, for civil society or association can exist between a large number of persons who are strangers to one another. This is because its essential stance, its default assumption, is precisely that its



members are by and large worth respecting, i.e., by and large do things well, reputedly, fairly, etc., hence can be relied on to act with integrity and competence in whatever public interest happens to be currently relevant, hence brings members together.

The significance of civil society in this sense, which is neither polity nor economy, is indicated by the most familiar model and example for it: the informal intellectual, cultural, social, political and economic interactions which centred around late 17th and 18th century coffee houses. Civil society in this “coffee house” sense constituted the vehicle through which the rising middle classes of early capitalist society were able to articulate and find arguments for their political aspirations, and indeed to build the informal networks of contacts which oiled the functioning of the political institutions they were creating or transforming in their own image. The particular example illustrates a general thesis: only if a significant numbers of players in the political and economic spheres stand in civil association with one another can there be effective mediation between the two. And only if there is effective mediation between the two is society as such possible (since of course polity, economy and civil society in the “coffee house” sense are merely partial forms of association which cannot exist apart from one another).

Secondly, Hegel regards civil society in the strictly economic sense (*die bürgerliche Gesellschaft*) as regulated solely by prudentially motivated legality and legally informed prudence. That is, for Hegel *die bürgerliche Gesellschaft* is a realm within which actors (who may just as well be corporate bodies as individual human beings) act within the law solely in order to achieve economic success – a level of wages, profits, return to shareholders, market share, etc., sufficient to ensure at least long-term economic survival.[9] Or to put the point another way, Hegel thinks that the situation complained of, at least by the children of senior business executives, if not these executives themselves, namely, that they must leave their personal moral convictions at the company gate, is precisely how things most rationally are. He thus agrees with contemporary neo-liberal thinking according to which normative and axiological considerations have no intrinsic place in the market, but may only appear insofar as they are legally codified, hence constraints on all players equally.[10] Hegel can maintain this attitude because he believes that the state (the polity) is in principle able to impose the appropriate normative and axiological constraints precisely by enshrining them in law. (We encounter here one significant difference between Hegel and those Marxist, anarchist and syndicalist traditions to which he bequeathed the distinction between state and civil society.)

Civil and Uncivil Cultures of Design

It has been argued that the real issue for Thackara is the tendency of modern society towards such technologically-enabled complexity that it has become impossible to steer in any meaningful, ongoing and consistent sense. The fact that already Hegel had recognised this tendency suggests that the insights and omissions of Hegel’s account of modern society might profitably be used to reconstruct out of Thackara’s text the task of addressing this distinctively modern problem of societal steerability. This would clearly



constitute the strong, non-anodyne sense sought by Thackara in which design as such is ethical and political.

1. The creation of a design civil society

Much contemporary urban planning is distinguished by its poor quality, whether at the level of government policy, planning bureaucracies themselves or the level of response by various sectional interests from within the governed (organised groups of individuals agitating for or against some specific issue, standing lobby groups organised around some general issue, e.g., protection of the socially disadvantaged, advocacy on behalf of motorists, defence of public education, etc.). Not infrequently, governments and their planning bureaucracies formulate policies, plans and proposals in comparative isolation and abstraction, then thrust them upon the governed in exercises of calling for public comment. This provokes anger amongst those who feel that they will be unfairly disadvantaged, which in turn provokes accusations of nimbyist self-interest from the government and those of the governed who would gain. The resulting to-and-fro then degenerates into a test of strength and endurance in which significant information is withheld and significant misinformation circulated. Rarely is there any attempt to explore, in co-operative fashion, left-of-field alternatives in order to find a solution which either creates no losers or even opens up hitherto unsuspected gains that more than compensate for the losses.

What might a modern society require in order for it to be able to generate, at least more regularly and reliably, such co-operative exploration of novel solutions which at least come much closer to being optimal, 'win-win' ones? Characteristically, the tussle between governments, instrumentalities and, for that matter, private companies on the one side, and organised groups of dissenting members of the public takes place against the background of a passive, largely uninformed and disinterested public. A specific plan, project or proposal is put forward which, coming more or less as a surprise, angers and panics certain members of an otherwise sleeping public. These individuals then mobilise simply to oppose and frustrate, in any way they can, what has been put forward. Engagement between promoters of the plan, project or proposal is only with those who will have to live most directly with the consequences thereof, and this engagement is sporadic, hostile and frequently driven by sectional interests. Above all, it is reactive rather than anticipatory, short-term and specific rather than long-term and general, occurring only as the dissenting response to a particular plan, project or proposal.

Plausibly, this situation would be considerably improved if the background against which the tussle between individual activist proponents and opponents of projects and plans takes place were not so passive, uninformed and disinterested. Note that to suggest this is precisely not to regurgitate hackneyed calls for more public engagement in the sense of active participation and involvement in specific issues and campaigns. Such calls are conceptually flawed in that they attempt to turn background into foreground. This conceptual flaw explains why efforts to realise such calls have always been futile or degenerated into the Athenian tyranny of brooking no truly private life. The appropriate metaphor here is not the town hall but precisely the coffee house: the character of the



public and its realm as a background culture of debate and discussion about general rather than specific public policy and planning issues – a culture which is informal, hence would permit individuals to come and go, depending on what general matters interest them, what skills they can bring to bear, etc., from which at least a certain number could withdraw permanently or indeed into which they need never enter. This background culture would render individual members of the public more alive to the needs of the public as a whole whilst simultaneously enabling them to put their own concerns about specific issue more effectively and productively, i.e., with the skills and knowledge which would enable them, even as lay members of the public, to engage in the search for left-of-field, more optimal solutions. It would thus enhance the quality of activist groups and individuals and be able to act as watchdog guarding both against political, bureaucratic or corporate high-handedness and against sectional interest masquerading as ‘the community position’.

In short, what might improve the current situation is the creation of a public policy and planning civil society in the informal “coffee house” sense outlined above. What sets such a policy and planning civil society apart from community education and consultation in the standard sense is precisely its crucial background character: it is not tied to specific issues, but logically precedes the proposing, planning, debating and deciding of specific issues and projects, such as building a desalination plant at this or that location, or building a new airport as opposed to upgrading an existing one. In this way, one avoids the classic problem of community education and consultation on specific projects, namely, that from the outset participants understand themselves to be potential winners or losers. Distance from specific projects would allow parties with different views to relate ‘civilly’ to one another in (possibly heated and passionate but non-dissembling) debate about the general form of such projects, that is to say, the different ways in which large-scale issues of planning, from transport through housing to energy production and consumption. It would mean an increase in knowledge of technical options on the part of the laity, and increase in knowledge of local concerns and possibilities on the part of experts and planners – as well as the generation of novel possibilities of solution.

Evidently, civil society in the sense intended here is possible only insofar as individuals have learnt the discipline of putting specific interests of their own to one side in order to debate the wider public interest. But precisely because a planning and design civil society is a culture of debate and discussion not tied to specific projects, which therefore does not come and go with them, it would be able to fit out those inducted into it with the skill and discipline of adopting the public perspective. In such debates and discussions on long-term strategic directions it will doubtless be no easier to reach consensus than on more concrete and specific matters. More important, however, than consensus reached at the end is the acquisition and exercise of the skill of conducting oneself well in civil society – of learning in the first instance to speak with a view to the larger picture, as manifest in activities of identifying what different groups within society regard as right, good and desirable, of working with relevant experts, extracting the consequences of the latest



research results for policy and commonsense understandings or even of conducting research of one's own.

The virtue of civil society thus lies not so much in its results as in its process. In particular, its virtue lies in the step it requires and teaches of putting oneself at one remove from debate and controversy about specific issues, decisions about which typically involve loss for certain parties involved in the debate and controversy. This step of abstraction creates space for the kind of discussion and debate which, however heated it may become, does not directly and immediately put one's own private interests at stake. So the task and discipline of abstracting from one's own interests is easier; one can learn new things and acquire new skills. Crucially also, one can get to know and work with one's opponent on more neutral ground. All the more crucially, one can get to know and work with him even before he becomes an opponent. This would in turn feed back into, and improve, debate and discussion about specific issues. In this way, one might turn the current policy and planning 'state of nature' into something rather more civil.

Clearly, this conception need not be restricted to large-scale planning (infrastructure and urban design); the idea could be extended so as to embrace design as such. Thus the general vision emerges of a system of production and consumption which is embedded not just in a political and regulatory framework but also in an informal, semi-institutional debate and discussion around such strategic questions as what kinds of product and service should be produced, how they should be produced, out of what they should be produced, where their materials should be sourced, what price should be paid, what consequences of their production and consumption should be factored into price, etc. Here, too, as in the case of urban and infrastructure design, the point of this informal, semi-institutional debate and discussion would lie not so much in the resolution of such questions as they arise for specific products and services, but rather in the improvement in quality of debate and discussion, and in the virtues which flow from such improvement, viz., greater ability accurately to identify and represent the public interest, more sophisticated community engagement, more responsiveness on the part of bureaucracies and technical experts to the desires, skills and knowledge of the laity, and, last but not least, a greater openness to novel, left-of-field solutions.

These virtues intimate that the idea of a design civil society (in the "coffee house" rather than Hegelian and neo-liberal sense!) is ethically and prudentially meritorious not merely because it would improve individual decision-making processes and their products. The idea also recommends itself both ethically and prudentially as a counter to the tendency of modern society, through its distinctive, technologically enabled complexity, to undermine its accessibility to rational control. For the existence of an effective, ongoing design civil society would constitute a forum within which to explore, well in advance of specific plans, projects and technologies, what consequences they might have in the intended context of implementation, how they might be adapted or even rejected in the light of these possible consequences and what left-of-field alternative to them there might be. Crucially, as far as the problem of overall steerability is concerned, the principal virtue of a design civil society is that it would permit us to identify and address in



advance the larger social problems caused by increasing, technologically enabled complexity. It would thus constitute an antidote to the reactive character of much design, that is, its character as identifying and attempting to solve a problem only once it has arisen and reached crisis proportions. For indeed design has often lacked ‘mindfulness’ not because designers themselves have not given the matter enough thought, or worked with a false mind-set, but because they and their clients have been forced by the urgency of the situation to respond as they did. In other words, the insufficient ‘mindfulness’ of much design has often resulted from its reactive character.

Here, then, we have a first intimation of a third and stronger sense in which design might be ethically and politically obligated. For although thus far nothing has been said as to what it would take to create and sustain a design civil society, one thing is clear: although, logically speaking, this task could be undertaken by designers individually, it would be more effectively accomplished by designers acting collectively, i.e., as a profession.

2. The ethically constrained marketplace

There is a second way in which one might seek to combat the tendency of modern society towards unsteerable complexity, a second way strictly complementary to the first: the idea of the ethically constrained marketplace. This idea, which underpins contemporary notions of corporate citizenship, is in fact an old one: Catholic notions of the market and economic life have always insisted on constraint through ethical considerations, as manifest in the distinction subsequently appealed to by Marx between use-value and exchange-value. And Adam Smith, contrary to a common but false impression of him, always understood the invisible hand to be constrained by moral sensibilities. In the context of the current environmental crisis, however, this old idea has acquired particular urgency: Hegel is wrong in his assumption that when we assume roles as players in the market, we may safely delegate our moral sensibility to the law (and the polity which creates the law and maintains the organs of its enforcement) and act purely as economic actors, that is, on behalf of either our private interests or our occupational ones. Unless economic players, i.e., producers and consumers, permit a wide range of ethical considerations to shape their economic decisions, there is not much hope of creating anything approximating to a sustainable or indeed just social order.

Nor is the reason for this exogenous to the market and economic life – as if a more-than-economic, truly ethical responsiveness within economic life were required merely because of crises looming beyond it, say, ecological or social collapse. For the idea of an economic life regulated solely by law and prudence is in fact a fiction of the kind exemplified in neo-liberal economics. No real market could ever function did not the majority of actors allow many of their decisions and actions to be constrained by ethical considerations as well as prudential or legal considerations; the idea of an economic life regulated solely by law and prudence is incoherent even when conceived merely as the ideal limit to which real life can only ever approximate. Occupational health and safety legislation, for example, did not create consensus amongst employers that some level of health and safety at work is required, and this solely for reasons of prudence, namely, the



existence of various sanctions, or again fear of being seen to break the law, etc. Rather, such legislation has arisen out of a sufficiently large consensus already to some degree ethically motivated, which ethical motivation has presumably become more widespread since then. Such legislation thus does not create but rather manifests recognition within economic life that some level of health and safety is ethically required. In fact, its role is to sustain the conditions under which it becomes practically rational for employers who endorse this consensus practically to act upon it – this by establishing viable benchmarks for operationalising the consensus and of course by providing legal sanctions for a minority of rogue employers.[11] For these reasons, the contrast drawn here between ethically constrained and ethically unconstrained economic life is misleading; in reality, economic life has always been ethically constrained, however inadequate this constraint might have been. A human interaction which operated solely according to a prudentially motivated legality and a legally informed prudence would be a war of all against all in which laws are the weapons, lawyers the troops. But war of all against all is not a form of social interaction or existence.

Clearly, creating an economic life in which ethical constraints are not artificially suppressed and distorted by the fiction that ideally economic life works best without such constraints is a sine qua non of designers being able to do as a rule, as part of standard professional activity, what Jan Schilham did. For being able to do as a general rule, as part of standard professional practice, what Schilham did requires having CEO's of the kind illustrated by Ray Anderson, and a corporate culture of the kind he has attempted to create at Interface. Now the truly fundamental, most difficult dimensions of unsustainability – problems of material intensity, as opposed to comparatively superficial phenomena such as the overuse of plastic bags – are not essentially problems caused simply by corporate stupidity and/or cupidity. Rather, they are structural problems induced by the sheer complexity of the order in which we live. (This is why dealing with such problems is not really a matter of convincing corporate executives to be good, or even of convincing them that they can give effect to their moral convictions without damaging their corporate enterprise.) But understanding this complexity is precisely something at which designers should be better than most (since they, after all, have created the elements out of which it is woven, hence are in a better position to understand how these elements have combined to engender it).

Note now that the same thing applies to the idea of the ethically constrained marketplace as applied above to the notion of a design civil society: the idea is not simply ethically meritorious in itself (because it permits directors, and in consequence designers, to give their consciences a voice, etc.). Rather, precisely because it is the idea of a society in which directors and designers can more closely approximate to the examples set by Anderson and Schilham, it is a means of ensuring that individual designers can conduct their activities in the manner which Thackara describes as 'mindful'. As such, an ethically constrained marketplace will be more amenable to design constrained by considerations of what protects, restores and enhances the bubble. It, too, is a means of addressing the distinctively modern character of the problems of modern society, viz., the



character of being seriously self-defeating which practical rationality seems to acquire in modern, technologically sophisticated society.

The Ethical Responsibility of Design

According to Thackara, design is ‘mindful’ when guided by an appreciation of how it will affect its context, and in particular, how to avoid a design which erodes its users’ capacities for practical deliberation and action in this context. Each chapter of Thackara’s book then elaborates different rules of thumb for achieving a context-sensitive design which enhances rather than erodes these capacities, that is, which enables rather than undermines a sense and condition of having the bubble. Thus, designers should *ceteris paribus* aim at lightness, slowness, minimal material movement, localness, situatedness, conviviality, stimulation of learning, promotion of literacy, smartness and flowingness. We have seen, however, that design is only able to conform to these demands as a rule, as part of standard professional activity, if the conditions under which individual activities of design take place are themselves right, i.e., such as to allow the designer to proceed mindfully (as a rule rather than as the occasional exception). These conditions are fulfilled only if the background to any individual design activity is (a) a design civil society based on recognition that unthinking design can, in a highly complex, technologically sophisticated environment, undermine overall system steerability; and (b) an ethically constrained marketplace[12] based on recognition that such ethical constraint is required not simply for its own sake, but in order to preserve system steerability in a highly complex, technologically sophisticated environment.

As already intimated, this is a task for design as a whole: it is not a task individual designers or groups of designers can (as a rule) pursue when on-duty, that is, when going about their daily professional business. Nor can it be effectively pursued by individual designers or groups thereof when off-duty. Rather, this task primarily falls to the profession as a whole, in the way it reflects upon what it as a profession is and how it relates to society as a whole. What, however, does it mean for the profession as a whole to advocate a design civil society and an ethically constrained market place?

One aspect of this task would consist in so refashioning the institutions in which designers are trained that they come to the profession with the appropriate understanding of design and its potential, both for good (when conducted mindfully, with real understanding of its nature and responsibility) and for bad (when unmindful, that is, lacking in self-understanding). Designers should learn the history, anthropology, politics and philosophy of design and technology since understanding what design is, what it has been, and what it could be would require recourse to all these aspects. In particular, if their curriculum were widened beyond considerations of aesthetics, user pragmatics and technological capability, designers would learn a central point made here, namely, that no design can fix its implementation but can rather vary widely in its good and bad consequences across different implementations – in short, that the implementation or application of a design is ultimately not itself a design question. Thus rendered more



sensitive to issues of context and application, designers would understand more readily the need to look at other traditions and cultures of design – which would in turn give them more resources for left-of-field solutions. They would also understand the socio-political and economic forces which shape their activity better, and indeed understand the need to make the kind of philosophical and conceptual distinctions made here.

Thackara would not, of course, disagree with this. Indeed, he is basically making this kind of point when, for example, he says that

(w)e need to become hunter-gatherers of ideas and tools: How have other societies lived in the past? How do societies live in other parts of the world today? Has this question been answered somewhere else already? (p.217)

But because he tends to confuse the levels of individual design activity within the profession and of collective engagement on the part of the profession as a whole on behalf of a design civil society and an ethically constrained marketplace, Thackara sees these questions as being raised solely by individual designers or groups thereof in the course of fulfilling a specific design brief.

But merely reshaping the institutions of professional training would only be one aspect of the engagement needed in order to bring about a design civil society. A second and much more radical aspect would be much more explicitly political engagement with the wider society within which design operates. Through their professional bodies, research centres and the like, designers should seek to institute and promote fora of ongoing design debate and discussion across society, from producers through politicians, scientists, technologists and economists to citizens and consumers. As the organisations and practices of such debate and discussion do not yet exist, this would involve designers themselves intervening to create them. Creating such organisational frameworks for raising and debating design issues with public policy makers, business, trade unions and citizens in general would not only represent a new level of theoretical and applied research. It could also restore to designers, albeit in transfigured, democratised form, that leadership role they once had in public projects before neo-liberal agendas of small government reduced them to contractors and consultants.

Clearly, no universally applicable recipe for accomplishing this second and more radical aspect of the task can be provided since the initiatives and organisational structures required would depend on the concrete circumstances. Nonetheless, an example of efforts towards creating the kind of organisational framework and practice within which a design civil society could emerge might be the project currently underway at the Warren Centre for Advanced Engineering at the University of Sydney, called 10,000 Friends of Greater Sydney. Information on this is available at <http://www.warren.usyd.edu.au/10000Friends/main.html>.

Finally, a third aspect of the task would consist in attempting to work with the representative bodies of those who come to designers as clients. For in order to re-order



the background conditions of professional practice in a way which makes mindful design as a rule possible, one must re-order the priorities of its client base. In particular, the conviction displayed by Ray Anderson must become the norm for business people in general, such that in the majority of cases and situations making the kind of choices Anderson made is no longer supererogatory relative to the existing standards of acceptable economic behaviour. This will only be the case when consensus exists that economic activity is rightly constrained by ethical considerations since only then will it be possible to factor such considerations into one's economic decisions without unacceptable damage to one's prudential interests.

Naturally, this third aspect of the task of creating a design civil society is one designers could only accomplish in conjunction with all other members of society since underlying is the general ethical and prudential demand placed on designers as self-conscious, moderately rational beings in general to play their distinctive part in creating an ethically constrained marketplace. Yet there is a more intimate conceptual connection with design than this suggests. The ethically constrained marketplace is desirable not simply for general ethical reasons of justice and equity. Nor indeed is it desirable simply for general prudential considerations of securing environmental sustainability and thus the long-term success of individuals' private interests. It is also desirable for design itself since it represents the optimal background conditions both for design civil society and for mindful design practice in Thackara's sense. This second aspect of the task thus represents a distinctively political dimension to the ethical responsibility of design. In order to restore the bubble of which unthinking design has robbed us, truly mindful design is, in the first instance, political design: it works with others to create the background socio-political and economic conditions under which mindful design in Thackara's sense becomes possible.

In the obligation, then, to creating a design civil society and the ethically constrained marketplace under which individual design activities can be conducted mindfully, indeed under which a design civil society itself flourishes most vigorously, one finds the third and stronger sense sought by Thackara in which design is ethical and political. There is, however, a problem. Our reconstruction of Thackara's central claim will only be successful if the obligation it arrives at is truly one to which designers are subject solely because they are designers (and not because they are, say, citizens or 'I'-thinking and saying subjects). Now one might argue that this condition of adequacy has not really been fulfilled. No doubt the obligation arrived at accrues to designers in their capacity as skilled professionals, and not simply in their capacity as citizens or 'I'-thinking and saying subjects capable of rational deliberation. But surely this is not specific enough. Are not all professionals subject to the ethical and political obligation to do their bit, through their respective professional associations, training organisations and institutions, etc., to create the conditions under which their profession can be conducted in ways which address larger social issues? Has not medicine, for example, a distinctive obligation to ensure a culture in which emphasis is placed on public health and prevention (which are typically of lower cost and more equitable than a culture of high-tech innovation and intervention)?



The answer to this objection is already implicit in the above. What Thackara is getting at when he speaks of the distinctively modern unintended consequences of design activity is the distinctively modern, because distinctively ubiquitous and far-reaching self-defeatingness of modern practical rationality vis-à-vis the larger social whole. This modern condition has been induced (in part) by the technological sophistication and power of modern designs, which, when implemented in the usual ‘unthinking’ or reactive way, result in a very tightly coupled totality of systems within which small events ramify so widely and quickly that the totality becomes hard to manage. So the profession of design has played a unique role in engendering the modern condition. Other professions, for example, medicine, have only been, indeed can only be, on the receiving end of the unreflective technologisation of social existence. The profession of design therefore has a crucial and unique role to play in addressing the modern condition, with all its associated ills, social, individual and environmental. Because it has played a necessary causal role in causing the problems of modern society, design stands under a distinctive and unique obligation to refashion itself, or rather in the first instance, the background conditions of its day-to-day conduct, in such a way that it becomes part of the solution to these problems.

So we have indeed arrived at a sense in which design as such stands under a distinctive ethical obligation. Thackara inchoately gestures towards this sense but he fails to get it clearly into view because he looks for it in the wrong place. He thinks it is a matter of designers paying more attention on the job to (what he describes as) the possible unintended consequences of their individual design activities. But as we have seen, if one is meaningfully to address the problem Thackara is getting at when he speaks of unintended consequences, one must not attend to these directly, but rather to the conditions under which modern design as a rule takes place. Designers must, in the first instance, pay more attention to the social, political and economic constraints under which they design – precisely in order to redress that distinctively modern condition which design itself, when conducted under existing social, political and economic conditions, calls forth: eroded societal steerability.

Why does Thackara fail to see these kinds of thing?

Pace Thackara, designers have hitherto failed to design mindfully because the background conditions of design have not permitted them to do so – whatever their personal moral convictions, cognitive abilities and mind-sets might have been. Thackara’s failure to see this explains why, when he comes to give his own account of why designers have not designed mindfully, he can only resort to an alleged psychological deficiency on designers’ part: they have not had the right cognitive attitude or mind-set. Going hand in hand with this explanation is another questionable view, namely, that designers should and could solve the larger problems while on-duty, i.e., through choosing to conduct their day-to-day design activity in the right way (since all they need in order to do this is the right design mind-set).



But why do Thackara and many others, for example, those natural capitalists and biomimicists whom Thackara sees as an ally,[13] fail to see these things? Why are they so inclined to locate what needs to change in the heads of designers and the like, rather than in the social context of design and the social relations of designers? Perhaps ultimately this derives from the decline of the kind of social critique which characterised Western Marxism and the New Leftism of the seventies. Precisely at that moment in recent Western history at which neo-classical, free-market economics began to reassert itself, this kind of social critique was displaced by identity politics. The causes of this are many although two interrelated factors may be mentioned: the bankruptcy of existing socialist systems and the ensuing post-modernist suspicion of socially revolutionary agendas. Together, these two factors made only a cultural leftism seem possible and so analysis of the kind which tracks relations and consequences of economically based power was dropped in favour of identity-based notions, e.g., Foucault's account, which harks back to Freud and Nietzsche rather than Marx.

Crucially, this is not just a shift in focus, but a qualitative change in the nature of social critique. For it is a matter of moving from social critique of a kind which explains unjust distributions of power, wealth and well-being as consequences of social relations (specifically, socio-economic ones) in favour of a kind of critique which explains these injustices, and indeed often the social relations themselves, as consequences of various kinds of identity, e.g., gender, ethnicity, culture and/or tradition. In effect, this is a shift from function to substance, however much the proponents of identity politics might attempt to blur this fact by post-modernist appeals to the fragility and constructed character of identity.[14]

Arguably, this shift has simply removed from the intellectual landscape sensitivity to the character of human interactions, the individuals involved in these interactions and whatever mind-sets these individuals bring with them as constrained in their causal efficacy by the background social context and systems in which they occur. Unsurprisingly, then, Thackara and other social critics, from the natural capitalists to Clive Hamilton, find it very hard not to think in individualistic terms. Their first response is to turn inwards, that is, to find fault in our current psychological economies and seek cures in new ones. In this spirit, they first pillory truncated modes of design thinking, psychologically malformed selves and the inauthentic hypostatisation of material affluence in order then to posit as solutions more holistic alternatives: whole-systems thinking, well-rounded selves and lifestyles authentic in that they permit all aspects of personality to flourish. This is simply the trope of good and bad mind-sets.

Perhaps, however, a genuine understanding and implementation of the ethical and political significance of design requires recovery of a tradition lost. Perhaps indeed the older tradition of social critique and socio-economic analysis provides the conceptual tools for which Thackara and others are grasping when they speak of the need to take a total perspective, as when Thackara resorts to natural capitalist notions of whole-systems thinking (pp.16-17) and the like. Perhaps, too, this tradition will more readily yield the



tools needed for identifying what is wrong with the narrow notions of efficiency wielded by neo-liberals when they argue that the welfare state has failed and advocate radical privatisation agendas.

Crucially, these critical tools are needed not simply by those who oppose policies which undermine the public in favour of the private and so subjugate the political to the economic. They are also needed by those who also seek a more sustainable social order. For achieving sustainability will presumably require one to move away from such narrow notions of efficiency and success, simply in order to get materials intensity down. And there may be a bonus implicit in the recovery envisaged: the analyses of recognition and alienation which the older critical tradition developed in conjunction with its more specifically socio-economic analyses might contribute to an account of what it is to live well, indeed authentically, which is neither residually metaphysical nor mawkishly psychological. Perhaps, too, this account would intimate the possibility of living not simply well but better at lower levels of materials intensity.

Endnotes

[1] The best account of what it is to ‘have the bubble’ is to be found in Rochlin 1991 – see esp. p.117. Thackara himself does not quite grasp what ‘having the bubble’ comes to – see, for example, p.8, where he implies that having the bubble, rather than lack of it, is the problem.

[2] According to (an actually rather pedestrian and inaccurate way of interpreting) Kant’s claim, “*Du sollst, also Du kannst!*”.

[3] See Hawken, Lovins and Lovins 2000, pp.115-118.

[4] Hawken, Lovins and Lovins 2000, p.118.

[5] Unless, of course, one stipulatively defines a collective city to be an arrangement such that individuals can enjoy the advantages of a large city while preserving the virtues of small town life.

[6] Thackara also does not truly understand the point of participative design, i.e., just what issues the idea constitutes an answer to. In the first instance, Thackara fails to distinguish clearly between users of a designed item and those affected by the use of a designed item. But mixed in with examples of participative design in this already muddled sense are examples of design in which designers involve, neither those affected by the use of design, nor indeed even the intended users of design, but an open-ended collection of other experts – see the example on p.222 of how this kind of open, collaborative design (which is clearly ‘participative’ design in a quite different, distinct sense) yielded a saline drip some three orders of magnitude cheaper than conventional drips.



[7] Which is not self-interest in any narrowly self-directed, that is, selfish sense. One's private interests might include such clearly unselfish, even altruistic concerns as securing the well-being of one's family, or advancing the cause of one's local football club.

[8] And it is a translation; Hegel had read Adam Smith and other thinkers of the Scottish Enlightenment, who used the term 'civil society'. (Similarly, the German word *der Verstand*, as used in the philosophy of Kant and later thinkers of the time, is a translation of the word 'understanding', as used in Locke and Hume.)

[9] It appears to be a structural feature of distinctively capitalist economies, in which the power and efficiency of technology has made mass volumes and types of production, hence mass volumes and types of sale and consumption possible, that as a rule ensuring long-term economic survival requires long-term economic expansion and growth.

[10] See Friedman 1970 for a classic statement of this position. It is precisely the Right Hegelianism of contemporary neo-conservatives which explains their affinity with neo-classical economics. Theirs is a strictly economic, what the Germans nicely call a Manchester liberalism.

[11] Of course, the size of this minority varies according to culture, social cohesion, the health of the economy, etc.

[12] We are assuming here, of course, that some kind of functioning market is unavoidable for, even essential to, the economic life of a modern, technologically sophisticated, hence powerful society. This would appear to be true, at least for the foreseeable future.

[13] Thackara appeals to Benyus and biomimicry at a number of places throughout the text – see, e.g., p.190.

[14] Note the 'essentialist' debates within feminism and post-colonial theory. Once one stands in the gravitational field of this kind of thinking, the issue irresistibly arises of just what the identity in question is and where it comes from. It would be better to make this whole issue go away, namely, by refusing to move into force field which generates it. After all, even a constructed identity is still an identity, still an essence (of sorts).

References

Friedman, Milton 1970 "The Social Responsibility of Business is to Increase its Profits", in *New York Times Magazine*, New York, September 13th, 1970, p. SM17

Hawken, Paul, Amory Lovins and L. Hunter Lovins 2000 *Natural Capitalism – Creating the Next Industrial Revolution*, Boston: Little, Brown and Company



Rochlin, Gene 1991 “Iran Air Flight 655 and the U.S.S. Vincennes - Complex, Large-Scale Military Systems and the Failure of Control”, in *Social Responses to Large Technical Systems - Control or Anticipation*, edited by Todd R. La Porte, Kluwer Academic Publishers, pp.99-125

Thackara, John 2005 *In the Bubble – Designing in a Complex World*, Cambridge, Mass.: The MIT Press

Carleton B Christensen teaches in the Philosophy Department of the Australian National University