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Cities after oil—2

Background to the collapse of 'modern' civilisation

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In line with a general foreboding emerging from the analysis of the future of our cities—and indeed concerning our civilisations as such—that has made its appearance in the pages of CITY, *this paper investigates in detail how civilisations collapse. It looks at the systemic forces that produce the general self-consciousness of civilisations that leads to their relinquishing responsibility for their own future. In the case of our civilisation we can see a number of ingredients that include an early adoption of individualistic thinking that tends to the belief that looking after one's self is better for society than trying to look after society as such (to précis Adam Smith). The postmodern condition and the unalloyed pursuit of consumption in our age is, however, altogether more extravagant than any past civilisation and this paper goes into considerable detail on the way in which our passion for the automobile has come to possess our culture and is screening out any realistic sense of responsibility for what is now looking like a catastrophic collapse ahead. This paper is the centrepiece of a trilogy appearing in the pages of* CITY. *The first paper appeared in the last issue and pointed both to the failure of the debate on sustainable development (and sustainable cities) and our dependence of vast throughputs of energy that in a few short years will start to dry up. In the next issue, I will be presenting the most likely scenario of collapse that will be unfolding over the coming decades, finishing with a discussion of how we need to conceptualise this and do what we can to survive the consequences.*

Introduction

This is the second of a trilogy of papers setting out the parameters of the collapse of 'modern' civilisation over the coming decades and what this will mean for cities and lifestyles—and eventually self-understanding—around the world. The first paper, which appeared in the last issue of *CITY* (Atkinson, 2007), analysed the 30-year discourse on 'sustainable development' and 'sustainable cities', pointing to the defective focus of the discourse that has led to its abject failure to deflect the course of global and local 'development' from the unsustainable trajectory that the famous

Limits to Growth sketched already in the early 1970s (Meadows *et al.*, 1972). The sustainability debate has suddenly, over the past year, come to focus on global warming as the key issue. But whilst established voices are sounding alarms concerning emerging changing weather conditions and rising seas,[1] absolutely no meaningful proposals are being made with regard to what should be done to address the problem. Above all, it is clear that the only realistic solution is to stop using fossil fuels. The problematic use of fossil fuels, however, seems to be a topic on which very little attention is focused. Indeed, even if no notice is taken of the warnings that we

> The first essay in this trilogy analysed in some detail the dependence of 'development' on increasing energy supplies, as the foundation of modern civilisation, and noted that these come overwhelmingly from fossil fuels. Whilst it is common knowledge that these will be exhausted within the lifetime of the present generation, there is a general hope that new, renewable sources of energy will appear in time to make up for the decline in fossil fuels and that in any case there are many decades before the decline sets in and so no need to worry. The paper went on to present the reality of relatively modest possibilities for non-fossil sources of energy and that when the decline sets in, this will mean a decline in the availability of energy as such and with it the progressive collapse of modern civilisation.
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> Based on various expert analyses, the paper was sceptical concerning the official view of the International Energy Agency (IEA) as presented in their *World Energy Outlook 2006* that the decline in fossil fuels—and particularly petroleum—lies comfortably in the future. Then, within days of the appearance of the paper, the IEA suddenly announced (as presented in the headline of the *Financial Times* on 10 July) that: 'World will face oil crunch "in five years"'. Then: 'IEA says supply falling faster than expected … oil looks extremely tight in five years time …' and there are '… prospects of even tighter natural gas markets at the turn of the decade'. In fact, it seems that whilst presenting a frisson, this has in no way been taken as a warning to start thinking of the consequences of the decline in energy and actions that might be relevant to respond meaningfully to these consequences.

should stop using fossil fuels in fact within the coming decades these will be diminishing anyway in terms of availability with little prospect of other energy sources providing an adequate substitute.

This paper is dedicated to asking questions at a deeper level as to how our civilisation has reached a point where the whole structure of life is clearly poised to collapse around the decline in energy but where there is almost no acknowledgement of this fact and hence no discussion either of how the collapse might unfold and what might be done to ameliorate the consequences. It might seem prima facie a simple matter of people being too frightened to think about what many realise is an extremely devastating prospect. Indeed, ongoing conversations which the author has with many people from different walks of life where the theme of the imminent collapse of our civilisation arises, quickly terminate in an agreement with the bald facts, followed by a fatalism that sees an apocalyptic end of the world and the extinction of humanity: so why bother to think about it? In fact the collapse is unlikely to happen in a day and will involve

immense suffering which could to some extent be ameliorated if our society were to face the truth and plan an acceptable future within the constraints presented by the environment.

The discussion in the first half of this essay of 'collapse' is divided into four sections. Following a discussion of the meaning of collapse, as presented in a growing literature, the peculiar characteristics of Occidental (European but also US, Australian, even Latin American) culture that insist on growth and change as a basic characteristic of human society, which underlies our refusal to accept the coming collapse, are analysed. In fact, no other complex civilisation in the past has been founded on a belief in 'progress'. Rather there are generally presumptions concerning the right or the good life and civilisations have generally striven to achieve these and been self-satisfied in ages when this has succeeded. The paper then goes on to look at this phenomenon in terms of its systemic character, focusing on how this leads to a systematic disregard of responsibility for the future. There seems in history to be a link between the scale of organisation of civilisations and the way in which the individual sees her or

himself relative to the society s/he lives in and related to this the capacity and inclination of the society to control its own metabolism. In so far as the process of expansion and 'complexification' is allowed to continue, this ends in overextension and collapse.

The paper notes how smaller-scale civilisations possess an integrative outlook where the individual is a function of the whole ('shame culture') and that as civilisations expand, classically through empire-building, there is a transition to a universalist and abstract view of the place of the individual, who, at the same time, is thrown inward to her or his conscience ('guilt culture') as determinant of what is right and good. European civilisation has traversed this route in specific steps. This can be seen in the progress of Ancient Greece from Homer to Alexander and carried on through Ancient Rome, the collapse of which resulted in a reversion to local, integrative shame societies. The process started again with the dissolution of the integrative structures of the Middle Ages and the Reformation through the Enlightenment debates and finally the confrontation between the Capitalist and Communist visions of how society should be organised.

The collapse of Communism and triumph of the liberal side of the Enlightenment has meant throwing the inner sense of self-responsibility of civilisation for its own welfare to the four winds. The very notion of society as a coherent entity has come into question with the structures holding the whole together being increasingly technical and technological. The increased availability and use of fossil fuels in this context is not simply coincident but rather a driving factor upon which the whole structure is not merely dependent but is actually built. Energy in this context might be understood as a kind of drug, dissolving the capacity of the society and its members to make coherent moral judgements and handing over vital aspects of the decision-making process to dead structures outside affective human moral understanding or empathy.

The second half of this paper looks in detail at what is de facto the core of modern life, namely, the suburban lifestyle and living with cars, and presents this as the nemesis of modern civilisation. It is the way in which we insistently follow out our lifestyle desires and specifically how the car (and to a less devastating extent also other technologies) becomes a dimension of our persona that deflects our responsibility away from a sustainable future. We believe we possess the technological objects with which we surround ourselves but we must realise rather that they, in a real sense, possess us: we are truly possessed by our cars. The paper contemplates this phenomenon in some depth in order to understand how it is that we have lost perspective on what is good for us. We are obsessed in a way that screens out the present risks and the consequences which will materialise in the coming years in the collapse of our society when we will be violently torn apart from the objects of our desires—cars without fuel have no purpose—and be left once again to face one another directly in the immediate necessity to produce the means to life in order to survive.

We will return to farming and a very local organisation of the productive processes. And if the systemic tendencies in terms of the relationship between the scale of organisation and moral outlook and self-understanding outlined here are in any way correct, then we can expect our liquid, individualistic Zeitgeist to rapidly evaporate. Perhaps in any case it stands to reason in that face-to-face cooperation, unmediated by technology, will be a necessity for sheer survival under the circumstances that we might expect to emerge. But how willingly and easily will such attitudes and outlook be embraced?

'Collapse' as an outcome of the particular evolution of societies

Conceptualising 'collapse'

The collapse of civilisations is a topic that has possessed a certain fascination for the European mind at least as far back as Edward

Gibbons' renowned *Decline and Fall of the Roman Empire* published in 1776. Perhaps we can even say that the phenomenon of the fall of Rome has a special place in the European consciousness: could this also happen to us? There has not been a huge literature on this topic but a quiet background of concern occasionally surging to the surface, as with Oswald Spengler's *Decline of the West*, published (originally in German) in 1918 in the wake of the First World War. All manner of reasons for the imminent fall of our civilisations have been put forward—including those of the final publication of the eminent urbanist Jane Jacobs, as discussed recently in the pages of *CITY* (Catterall, 2006). Here we start by analysing two other recent contributions to the genre that are quite comprehensive in their view of what it is that leads to the collapse of civilisations.

The most comprehensive recent analysis on the subject of the collapse of civilisations is Joseph Tainter's *The Collapse of Complex Societies*[4] published in 1988. He looked empirically at a number of more or less complex societies that collapsed in the past, enumerating the reasons and describing the characteristics of a post-collapse society—that is, one that loses complexity. Whilst it is not necessary here to go into detail into the reasons for collapse, it is interesting to note in brief that generally these are themselves complex, involving depletion or cessation of access to vital resources in conjunction with mismanagement. Internal competition particularly involving class conflict is a common factor deflecting attention from emerging problems and although obviously invasions can terminate societies, it seems more that these succeed in situations where there are already internal problems.

A collapsed society classically involves geographic fragmentation into much more locally independent entities with simpler economies and consumption patterns and less sophisticated and less monumental cultural self-expression, less flow of information and less complex structuring of what people do and how they relate to one another. Although eschewing what he calls the 'mystical' view of some of the better known exponents of collapse (classically Spengler and Toynbee) who see all societies as going through 'natural' cycles of growth and decline, Tainter nevertheless comes to a similar conclusion couched in economic language that sees diminishing returns as a common if not universal feature of the collapse of complex societies.

He sees this not just as a matter of the rising cost of exploiting each further increment of physical resources, but also the rising cost of administration and innovation that might otherwise defer the collapse. In this sense, societies become bankrupt in the widest sense and collapse as a consequence of the lack of financial (and intellectual) resources necessary to maintain their increasing complexity. In the end Tainter sees simpler societies (not clearly defined) as the norm, with complex societies necessarily excursions into inherently unsustainable territory. He even conjectures that simpler societies might be more satisfying arrangements for the majority of humanity but that collapse generally has to traverse harrowing forced depletion of population likely to proceed through mass death through starvation and pandemics.

Jared Diamond's recent book *Collapse* (2005) has gained a certain notoriety, also looking for reasons of the collapse of past societies with a more focused attention than Tainter on the possible relevance to our own (mainly US) society. A major focus of Diamond's attention is how it is that some societies adapt to changing circumstances and how others do not. Whilst not managing to find a formula, he sees the unwillingness to 'change core values' as being the bottom line in explaining the collapse of many societies that could have adapted and also notes engagement with internal competition as blinding actors to the problems ahead.

At one point Diamond takes issue with Tainter who seemed to find it unbelievable that societies (or elites responsible for the strategic decisions on behalf of societies)

would not see impending resources problems and take evasive action (Diamond, 2005, p. 240 et seq.). He then attempts to explain why such problems do not receive adequate attention and how, when they emerge, solutions proposed fail to address the problems adequately. It nevertheless remains something of a riddle to him how far our society has managed to come, in more or less full knowledge of the unsustainability of what is happening, whilst still eschewing effective action to avoid collapse.

A major problem that we face in interpreting past collapses with respect to possible relevance to our predicament, as pointed out by both authors, is that past collapses have involved much smaller entities. Today's global civilisation has dimensions in terms of interdependence and complexity an order of magnitude or more greater than any in the past. This makes historic comparison interesting but in the end inadequate to any very thoroughgoing analysis of what might happen to us in the coming years. Nevertheless, we do need to be aware of what it is that is so inhibiting within our society of an honest recognition of the problems ahead and above all the extraordinary weakness of government or social or individual responses to the available information.

What are the 'core values' of our society and how willing are we to change these?

Starting with Diamond's notion of 'core values', we really have to face up to the depth of the millenarian structure of the European outlook on life as the foundation of the modern world and its notion of 'development'. In two previous papers in this journal I discussed in considerable detail how, unlike any other complex society, ours insists that we are going somewhere and that tomorrow will be different from today (Atkinson, 2004, 2005). Contrast Hindu society where people are born into a particular role and where fatalism dictates in a world that seems never to change below the immediate surface.

Contrast Confucian society with its moral code defining what is a 'good society' and happy when—as has been the case often in Chinese history—this is achieved. 'Progress'—the creative destruction of modernisation and development—has its roots in the Christian apocalyptic:[2] a 'pre-millennial' open-ended notion of incremental improvement that underpins liberalism competing with a 'post-millennial' notion of an organised life 'after the revolution'.[3]

It is surprising that neither Tainter nor Diamond focus any attention on the millenarian nature of Occidental—and now global—culture.[4] Of course it has been an important focus of attention of the Green Movement in its criticism of millenarianism in its contemporary guise of an obsession with 'economic growth' and its totem, the size of GDP. The failure of the movement to make much impact on this obsession might be considered its Achilles heel. We might blame this failure on the weakness of the movement to take up the alternative of a strategic formulation of what a sustainable (utopian) society might look like.[5] Diamond follows the inclinations of the Green Movement to make piecemeal suggestions as to actions that might add up to a sustainable future but where there is no evaluative framework to say whether these are in any way either coherent or, in the end, truly adequate to address the problems ahead. Above all, this fails to see the need to combat the root problem of our profound belief in the virtue and inevitability of growth and change, the underside of which is a deep revulsion with stasis in any form (well captured by the term 'stagnation').

The competition between the 'capitalist' (pre-millennial) and 'communist' (post-millennial) versions of progress clearly was a factor blinding both sides to the wisdom of the idea of open-ended 'development'. We might have hoped that the 'collapse of communism', essentially heralding the end of that competition, would open the way to a more considered view of a sustainable future. Instead the world floated off into a revival of liberalism with its universalisation of the

competitive impulse but, more importantly, the haze of a 'postmodern', individualistic consumer society.

Here we reach the heart of the problem of where we now stand: what might be referred to as the descent into a self-indulgent lifestyle that has become grotesque in its pursuit of accoutrements offered by 'the market' with only the most fatuous consideration of its future consequences as expressed in the smug adoption of 'green consumerism', as if this were enough in itself to save the world. The condition of postmodernity is one in which critique is dulled and pursuit of personal gratification incipiently takes precedence not only among the rich but going right down through society to what others might consider the squalid living conditions of the urban poor in the South. Seduction, rather than in the past coercion (Bauman, 1988) is the ruling power that holds societies together (albeit in the South possessing inadequate resources to maintain the social peace such that random violence becomes an increasing fact of urban life).

Why has our society relinquished responsibility for its own future?

One is led to contemplation as to how come our society has progressively let go the strings of control to just swim with the current, increasingly of a fragmented, incoherent society and a decision-making process that assumes that everything will work out for the best. Amongst the literature critical of postmodernism I find myself drawn to the flow of thought that Zygmunt Bauman above all has displayed in portraying the inner decay or liquefaction of our civilisation.[6] However, neither Bauman nor related critical sociology has analysed how, in Hegelian fashion, there is at the same time a profuse elaboration of external techno-structure ranging from local control systems (e.g. urban traffic flow regulation; the functioning of airlines, aeroplanes and airways; control of electricity grids and immensely complex and

dangerous power stations; water management systems, etc.) through to the ever more integrated global production and distribution system with its automated factories, electronic communication systems, mighty ships and finally superstores.

We imagine we indulge our freedom but actually follow out ever more elaborate rules demanded by the machinery of our global techno-world.[7] The two build upon one another with our sense of moral responsibility progressively diminishing. The second half of this paper focuses detailed attention on this identity with the techno-structure with respect to the heart of the matter: namely, our relationship with our cars. The following paragraphs, however, look in more detail at the systemic dissolution of our society as a function of the widening horizon of the organisation of life in general.

It is useful to trace the origins and evolution of this 'Weltanschauung' because this way we can get an idea of how it is not merely a particular view proposed and promoted by individuals but that it has essential systemic properties relating outlook and self-understanding to the realities of the external world. In one of my earlier papers in this journal (Atkinson, 2004, p. 91), I referred briefly to the way in which the expeditions of Alexander the Great had an effect upon the Greek imagination of rendering the individual as nothing over against the immensity of what had happened; historians of ancient Greece refer to this as the transition from *polis*—the world of the city state—to *cosmopolis*—a world of infinite extension of empire. The moral philosopher Alasdair MacIntyre (1981, pp. 169–170) sees this in almost functional terms: that the subordination of the Greek city state where political and with this moral decisions could be negotiated, to the Macedonian—and subsequently Roman—empire, encouraging modes of thinking that were abstracted from everyday reality and hence in a sense absolute, rather than relating to specific time and place.

In its ultimate form, the individual, rather than the collectivity becomes the arbiter of

what is right and wrong, and society defends itself through the law that simply says where the boundaries lie but otherwise allows the individual free self-expression. In fact we can see a proto-foundation of this even further back in time in the Judaic invention of the One Supreme God that was generated by a people that had no specific home, pulling up the roots of the Mesopotamian Gods of Place and creating an abstracted almighty God to which the individual communicated directly via his soul, regardless of where he happened to be and hence also without regard for the environment as a dimension to be taken into account in moral decision-making.

E. R. Dodds (1951) had already noted the evolution even in earlier Greek times from a 'shame society' to a 'guilt society' that signified a passage from community moral control to a moral control located in the individual. In the first instance this was subordinated to the notion of jealous Gods watching over the moral conduct of the individual that they did not overstep their place in the Order of Things and similar psychological mechanisms can still be found in Christianity—that God is watching you even inside your soul. Alexander's Empire gave the screw a further turn. It was in particular Stoicism, but also Epicureanism and Scepticism that turned Greek philosophy inside out, placing the—in the first instance morally conscientious—individual at the centre of the world in contrast to the philosophies of Plato, Aristotle and all that went before, with their attempts at comprehensive philosophical systems that would define the place of the individual in her or his social and political context.

The collapse of Rome led to a reversion to the collective understanding of morality and social organisation realised in the form of feudal society. But the individualist outlook remained in the books and, arguably, as a dimension of the inner machinery of Christianity—the individual's relationship with God and the importance placed on the individual soul—to be rediscovered as the world opened up again to complex forms of organisation. Although individualist Greek philosophy did not play a role in the initial stages of the decay of feudalism (Scholasticism was much more interested in the rediscovered Aristotle), it was certainly an important ingredient of the development of European thought within the Enlightenment and particularly in its Anglo-Saxon variant from Hobbes, through Locke, Mandeville and Hume to Adam Smith who really is the prophet of modernity in its liberal guise (Smith, 2007).

Different times, different places: different self-understanding

It is interesting to contrast the individualist Greek philosophies with Confucianism. The former were a reaction to a world whose boundaries had grown beyond the comprehensible cowing the individual into looking inward for salvation and to the infinite and abstract for rules of conduct. Confucius was reacting to a world that was going in the opposite direction: China was fragmenting into warring states where moral law was degenerating into a multiplicity of problematic alternatives, all of which made life increasingly precarious. Confucius thus preached a single, comprehensive and very concrete system of morality in which all would have their place and which, as a system would re-establish a peaceful whole where all would know how to relate to one another and to the whole. There was—in Margaret Thatcher's words concerning precisely the opposite—'no alternative' and although it took 400 years to become established as the rules (even the religion) of the state, once in place as the basis for Chinese social and political culture, Confucianism showed itself to be, in modern terminology, more or less sustainable, relinquishing ambitions to expansion and change.

The general European view of China in the 19th and most of the 20th century was that China was 'stagnant', 'moribund', lacked any sense of progress. But why should one want

to progress if the system you have satisfies human needs and is environmentally sustainable? We might, from the point of view of the ultimate Christian ideal of an egalitarian society, criticise the inegalitarian arrangements which Confucianism imposed—though we also need to justify egalitarianism and not just assume it is good because we think so out of our Christian sensibilities. The liberal, progressivist alternative, after all, patently fails to achieve either an egalitarian society or the security provided by the Confucian state and society. On the contrary, the resurgence of liberalism in recent years has given us increasingly inegalitarian social arrangements *and* forms of insecurity that are, furthermore, leading us to a catastrophe on an unimaginable scale! The point here is that fundamentally alternative moral economies are possible by design and have been so in history. One has to be aware, however, of how the surrounding real-world conditions influence what is or is not acceptable by way of moral and social structures.

Perhaps we can pause at this stage to note that European thought has not traced a smooth path from communalistic to liberal, individualistic modes of self-understanding but, on the contrary has throughout the centuries possessed both modes of thought that have progressively restructured themselves and stood as opponents in both the political and the individual moral spheres. Although the notion of utopia, as the vision of a communalistic society, has tended to be dismissed as unrealistic dreaming about how society might be, the density of such dreaming and the number of attempts to realise utopian ideas are manifold over the past several hundred years of European history.[8] Indeed we are generally unaware of how many utopian ideals and ideas have had important influences on how Occidental history has unfolded—even if the practice rarely if ever achieved the ideal. This ranged from 'progressive' education through the technocratic mechanisms of environmental management in early 20th-century USA and the British post-Second World War planning system to the attempt to implement

communism in the Soviet Union and other states as representing the most comprehensive attempt at utopianism—sadly short of the ideal in its authoritarian proclivities.

The difficulty implied in the foregoing argument is the *systemic* context that encourages particular tendencies in moral—and political—expressions of particular societies. On the one hand it seems that an embedded social and moral philosophy can constrain expansionism: the Chinese refrained for 2000 years from much by way of expansionism[9] and India has almost never been much more than an assemblage of petty states. On the other hand, that de facto expansion will tend to be accompanied by and in turn encourage individualistic modes of self-understanding. We can even see in Europe the differing tendencies between continental thinking being more inclined to integrative self-understanding versus the ruthlessly individualistic British self-understanding influenced by the presence of the surrounding seas that suggest expansion and in practice facilitated the most expansive empire the world was ever to see.

Readers might be sceptical of what is being theorised here: there are too many exceptions to make it anything like a rule. We are not, however, talking of iron rules but rather what is happening in terms of changes in political and social life has particular tendencies in encouraging particular ways of viewing life at a quite fundamental level. Once established, such views then react back on the propensities of a society. Of course it is a banality to say that societies need basic unconsciously agreed ideological frameworks in order to function at all. The bottom line is common language but religion is the basic structuring device. What 'religion' is in practice is very slippery because there is a spectrum ranging from unconsidered belief that creates the particular orientation and consciousness of a society and motivates individuals to act in certain ways through to areas that are open to debate—and of course conflict.

Liberalism and more generally individualism can be interpreted in this framework as religion—or perhaps a component of religion

in that it has influenced and eventually in Protestantism become an important orientation of Christianity (Weber, 1976), reinforcing propensities inherited from Ancient Greece and even from its Judaic ancestry. Generally— we might say for simple functional reasons— moral philosophies are about articulating societies such that they cohere: Confucianism and Hinduism have already been referred to.

The peculiarity of the modern individualistic mode of understanding is the way in which it isolates the individual and so has loosened rigid social structuration, permitting 'flow' in the framework of an inherited belief that things *should* change ('progress'). It might be supposed that this would lead to social collapse but the evidence de facto indicates, rather, that it has facilitated the development of runaway complexity that has built itself to immense proportions and now is poised to collapse under their own weight. In so far as 'competition' is encouraged, the process of social dissolution becomes, prima facie, extreme.[10] We can contemplate from this perspective how tragic was the discovery of fossil fuels, facilitating a vast extension of the external techno-structure, invading and destroying the human, affective moral structures of society. We can expect an altogether more catastrophic collapse at the end of the road with the techno-structure falling apart, leaving deeply disoriented individuals in search of something to hold on to. The compatibility between individualistic moral philosophy and times of expansion can be seen in this way more clearly: things seem to be beyond the control of the individual but in fact they are profligate in the production of man-made external structures created by means that are meaningless in moral terms, which we seem incapable of evaluating in terms of what is right and what is wrong for us.

Modernity's nemesis: suburbia and the automobile

Having analysed the systemic background to the way in which our society has, as it were, handed responsibility for its future welfare over to the techno-structure, I will now focus attention of the heart of the problematic. Liberalism in its guise as political economy essentially encourages individuals to follow out their lifestyle desires. So what has the majority of Occidental society done with this freedom? Although the Green Movement and the whole 'sustainability discourse' has focused critical attention on certain aspects of contemporary lifestyles, it has failed singularly to focus on the socio-psychological processes that have brought this into being and the structures of production that have facilitated its creation. The heart of the matter is the progressive dispersion of populations into suburban settlements and above all individual houses and the ever tighter relationship between people and automobiles not just as means of transport holding the suburban lifestyle together but as instruments of social self-expression.

The rest of this paper thus focuses attention on this matter. The importance of this attention is twofold. Firstly, the suburban lifestyle—the individual house and the accoutrements of life in and around this— becomes the foundation of a voracious throughput of resources and particularly energy when compared with even modern life in cities and far more than pre-modern life. Furthermore, the individual house cannot be understood except together with the automobiles that connect it to the rest of life: work places, schools, commerce. As pointed out in the preceding paper in this series, the use of energy by cars has been the fastest growing component of energy consumption over the past decades and continues upwards. Thus the deepening dependence of modern life on large throughputs of energy—and more specifically petroleum—becomes clear. The second reason for the importance of this focus on suburbia and more sharply on the automobile is the way that psychological attachment to these has progressively dulled the critical senses within our society and thus, it is here argued, is an essential source of the postmodern condition,

with its enervation of our sense of social responsibility.

The suburban dream

First I will focus on the grounds upon which urban life in the North has progressively decanted into the surrounding countryside as 'suburbia'. I look at three reasons for this. The first is simply that it is in emulation of the lifestyle of the rich and hence is an expression of success, of status to which all ambitious people strive. The separateness of the suburban house is then an expression of *individual* success. The first textbook on urban planning used in British universities that went through many editions opened thus:

> 'The English are countrymen rather than town dwellers by long contracted habit … The house, the home of middle-class and working-man, built in endless rows and facing endless streets, was taken as the starting place of reform. The garden suburb of the wealthy was at least a century old. It was now time to democratise it. The house and garden is the symbol of our individualism … and a sign of the penetration of the country into the town.' (Abercrombie, 1933, p. 2)

In fact the British were the first people to urbanise and the garden suburb appeared only a few decades before Abercrombie wrote his book. The rhetoric, however, expresses well a very broad sentiment that has underpinned the actuality of the continuous extension of British—and American—suburbia across the late 20th century and the progressive spread thereafter into Continental Europe and thence into the ex-communist countries and becoming the preferred lifestyle of the emerging 'middle classes' in the South. Suburban living has status.

A second impetus comes from the desire of the ruling classes to circumvent circumstances that had led to working-class solidarity that could ultimately encourage socialism and communism (the vanquishing of the then ruling classes). If workers can be provided with a way of life that gives them individual(ist) success, then ideas of revolution will fade away. There can be little doubt that the massive financing of suburban development around American cities following the Second World War was in part inspired by the political drive to ensure social peace and stabilise social relations in their present form. This proposition was forcefully argued by Ruth Glass (1959) in a well-known essay in which she noted how the motivation to disperse populations as a measure to diffuse the power of the lower classes that arose with industrialisation had led to an anti-urban culture that had a self-reinforcing effect well after the actual fear of revolution on the part of the ruling classes had subsided. The socio-political pressure today for the continued suburbanisation of the 'middle classes', at least in the United States, comes, rather, from racism, class prejudice and associated with this the flight from random crime and violence in the old city cores (Harvey, 2000, pp. 138–139).

The third impetus came from the workings of capitalism where suburban living and above all car ownership and use greatly increase the demand for commodities. The way in which the 'highway lobby' in the USA—led by General Motors (GM) who coordinated other industries with an interest in cars including steel, glass, rubber, oil, etc. and then highway construction companies—bought and then closed down public transport undertakings and successfully lobbied for the creation of the highway trust fund to finance the vast US highway system to accommodate the cars they wanted to sell is well-enough documented (Burby, 1971, ch. 11 and Flink, 1988, ch. 19). Presumably the car lobby is able powerfully to influence politics in all those countries where the car industry is in the lead of all industries (Japan, Germany, France, Italy, etc.). Certainly in the UK case (where the car industry is however no longer very significant) the car lobby has also been a well-organised force in promoting their interests at the expense of public transport (Hamer, 1987). The promotion of

Figure 1 The ultimate goal of modernity?

suburban living—and resultant urban sprawl[11]—has been an essential dimension of this strategy of the highway lobby (Figure 1).

Of course concerning the imminent collapse of our civilisation discussed above it is necessary at this point to highlight how suburban development and the use of cars have come to dominate the process of escalating consumption of a whole range of natural resources and above all the squandering of energy. I focused attention in my earlier paper in this series on how energy use for transport and more particularly cars continues to grow more strongly than for other purposes, this having started in the USA, then in Europe and now in the rest of the world with China leading the way. Then in the framework of the fading of social self-responsibility of our society outlined above, 'automobilisation' can be seen, as analysed in detail below, to play a key role in further eroding the critical propensities within our society such that we screen out the fatal trajectory and the approaching the limits of petroleum that will spell the end of car culture.

The socio-psychological dimensions of automobility

Car ownership and use is generally viewed as functional and rational. Cars give us freedom and flexibility to do things we need—and like—to do in an efficient manner. In recent years the increase in the use of cars has demanded and been granted vast investments in highways and in traffic management systems in cities and become—together with the petroleum industry—the heart of the economies of the industrialised countries. Air pollution and traffic accidents have been an accompaniment of the growth of vehicle use so much effort has gone into means to keep the consequences of these within bounds, to deal 'rationally' with the 'externalities' of automobile culture. Then there is, of course, a vast popular discourse on cars not only with specialist journals but many newspapers have special sections devoted to cars. We are surrounded almost anywhere we choose to go not only by cars themselves but by the accoutrement of what we can refer to as a car-infested world: road signs, service stations and above all advertisements. And it has reached the point where it seems difficult to find places to escape the noise of traffic.

When discussing the phenomenon of suburban living above, reference was made to its socio-psychological significance. This noted both the status symbolism and also the political motivation in encouraging and promoting it on the part of those who determine political agendas. Cars also exist in a socio-psychological and political landscape and play various roles in this. Indeed, they occupy a very special place in our social—and above all private—consciousness today[12] and yet the meaning of this in socio-psychological terms and the impact that this has on the very structure, functioning and self-consciousness

of our society has been almost entirely absent.[13] The following paragraphs present what has emerged in the now growing analytical literature on what is being termed 'auto-mobilisation'.

A significant contribution has been made by John Urry who has been looking at various aspects of travel and mobility as social phenomena and who, apart from introducing the concept auto-mobility, contends that sociologists have to reconceptualise the subject of their discipline to recognise the impact of mobility on the way in which contemporary Occidental—and increasingly global—society works (Urry, 2000). Put simply, he sees mobility in various dimensions as being a defining quality of our society, physical, imaginative and virtual and that we should consider ours to be a 'post-societal era' relative to the traditional sense of society. The role of the automobile is central to this conception. This notion of living in an era from the point of view of social structuration and function of which mobility has become a major defining feature adds an important underscoring to the exploratory nature of the notion of postmodernity, which discourse has so far said very little about the importance of mobility to this 'condition'.[14]

Arguably the central characteristic of auto-mobilisation—and more recently the rapid growth of more or less vicarious air travel—is to lend a sense of 'being free' which implies—even actually means—being free of social commitment and actually loosens the sense also of social (and political) responsibility. 'Just do it!' is central to the postmodern mentality and the car facilitates us actually, in practice to do it.[15] We can say that incipient mobility was in any case the trajectory of European culture, in contrast to other complex cultures such as Chinese, Indian or Arabic, right back to the Middle Ages and that the population of the USA has never really settled in, being perennially mobile. The car, however, became key to facilitating acceleration along this trajectory. Europeans—who actually left in large numbers to people the USA and who also absconded to run colonial

empires—whilst historically being more place-bound than citizens of the USA, nevertheless have enough precedent and an orientation to absenting themselves from their society to follow in the wake of the US culture in terms of augmented mobility.

The automobile and its supporting infrastructure is nevertheless a particular technology that imposes its own rules. One is tempted again to think of the theorists of 'autonomous technology' (Ellul, 1964; Winner, 1977) who would suggest that the logic of the technology has had a crucial determining effect on the social—and certainly environmental—outcome. Let us be more modest and conjecture that the car has had a definite influence: accepting the technology to fulfil certain desires means accepting its consequences, not just in terms of the externalities such as pollution and accidents and including the destruction of cities as they have been known in the past, but also in terms of the ways we relate to one another both in daily life and broader social intercourse.

Human relations become fragmented through the isolation of individuals sitting often hours per day in their cars, concentrating on the road ahead or in static traffic moving slower than adjacent pedestrians towards whatever is the destination of this particular journey but sealed off from the social world outside. In cities a third or more of the land surface is dedicated to cars and in suburban areas even more of the built area. The precedence given to cars in the provision of space and the reorganisation of facilities consequent on general auto-mobility discriminates against those without cars and leads to the reorganisation of gender and age roles. This process is an important dimension of the contemporary problem of social exclusion. 'Modern landscapes seem to be designed for forty year old healthy male drivers' (Relph, quoted in Freund and Martin, 1993, p. 45) with cars 'colonising more and more areas of everyday life' (Lefebvre, quoted in Featherstone, 2004, p. 7).

Not having access to a car—either as a family or as family members in single-car

families—or not being eligible to drive—the young, the aged, the incapacitated—narrows the options in a world increasingly built around car-accessibility. This, too, can be isolating. Women's roles are defined strongly into one of two categories: those who seldom have the family car and are thus relegated to public transport in so far as it exists and those who spend much of their time in the role of drivers for children or other non-driving family members, fetching husbands from suburban rail stations and so on (Freund and Martin, 1993, p. 51; Miller, 2001, p. 29).

In attempting to characterise the intensity of the relationship between drivers and owners of cars and the objects themselves, to see the world which this relationship creates and inhabits, the concept of 'hybrid' has been introduced into analysis of auto-mobility.[16] That is, to see machines and persons forged into a single object, not only when driving but in the way in which everyday life is rebuilt around the relationship between vehicles and owners/users. This starts from the fact of the expense of buying and running cars as a second most important item of household expenditure and the emotional energy and proportion of available time invested in the machine. It includes decisions on activities to be carried out across the day and how these are timetabled.

Then when driving, the process of driving requires a close adherence and interaction between driver and machine that is all-preoccupying and welded even more closely by 'on-board entertainment systems'—and extends to passengers who much of the time driving follow closely and hence are also preoccupied by the process of negotiating the highway. This relationship has been variously characterised as vehicle occupants contained in a womb or cradle (Baudrillard) reducing them to the disempowered status of babies. In this state, emotions vis-à-vis other hybrids become basic as expressed by 'road rage' (Michael, 2001) and less aggressive but nevertheless emotionally simplified modes of communication. Or we might reason instead that the machine itself is far from being a

cradle but is better characterised an iron cage (Urry, 2000, p. 30).

Cars are not, however, perceived by their owners as either cradles or cages. On the contrary, the car you drive has become the most important means of social self-expression. You are, in terms of standing and status, to a significant degree what you drive. This is seen both from the point of view of self-identity and how one is seen by one's local and wider social circles. Here we refer to the way in which it is the crowning object in a world where modes of consumption have become the key force structuring the social process (Fine and Leopold, 1992). The brand of car, down to the particular specification of engine, electronics and interior trim, places the individual both in the social hierarchy and in terms of subculture (Michael, 2001, p. 61).[17] Cars express, and assure of, belonging, of being part and having a place. And as such they enervate critical faculties, provide compensation for what might otherwise be seen as social injustice—and certainly it is this which blinds people to the negative externalities of auto-mobility.

The car as seducer and as cult object

The car manufacturers discovered early and have since encouraged the way in which cars have become so central to self-identity and social self-expression. This has gone through developmental stages and it is interesting to see historically the very different approaches that were taken in the early 20th century by Ford and GM. Ford's initial success did in fact rest upon a functionalist image providing owners with the means to travel in what was still a country of spread-out farms and towns. General Motors discovered the importance of 'styling' in the 1920s (Flink, 1988, ch. 12). Rapidly it became evident and GM used this as a means to differentiate status and flattering the public that they were *socially* mobile (Marsh and Collett, 1986, p. 38). Of course there were subcultures that rejected this kind of social placing but

nevertheless projected other kinds of social image through their choice of car—notably the Volkswagen Beatle, the Citroën Deux Chevaux and the Morris Minor and Mini.[18]

Gartman proposed three distinct phases through which automobile design has passed in an ever tighter cementing of social and personal meaning to cars. There was a clear crisis in the 1960s that was accompanied by a restructuring particularly in Europe of the car industry, in part precipitated by changes in production and management but partly a consequence of adapting to the ability to engage in more sophisticated ways of differentiating and seducing discrete consumer groups.[19] The emergence of the postmodern condition coincides—or we might say is in a certain way determined—by a further deepening of the engagement between cars as manufactured product and the desires of the public where '… the car and its subcultures are part of a fragmented, liberated society of "difference" that follows the collapse of modernity' (Gartmann, 2004, p. 170).

Today, thanks to evolved production technologies, a very small number of global manufacturers manage to produce a vast range of vehicle variants in terms of what they might express regarding status and subculture. We thus see the invention and evolution of particular genres including breaks, sports, sedans, hatchbacks and most recently the emergence of the 'sports utility vehicle' (SUV). SUVs indicate clearly the way in which a pseudo-functionality is applied—sophisticated high-resource consuming attributes including four-wheel drive used almost exclusively on highways and in cities—and in spite of knowledge of the finite nature of resources and the impact of cars on the environment, the urgency to satisfy pure desire erases self-criticism as an affluent citizenry indulges in their purchase and use as profligately resource-consuming preening objects (Coleman, 2005; Mendieta, 2005).

So it is that today, coming to an apotheosis, we can barely any more understand the meaning of the car as functional object and instead must focus on its emotional meaning.

Roland Barthes wrote already in the late 1950s that:

> 'I think that cars today are the exact equivalent of the great Gothic cathedrals: I mean the extreme creation of an era, conceived with passion by unknown artists, and consumed in image if not in usage by a whole population which appropriates them as a purely magical object.' (Barthes, 1973, p. 95)

Certainly the analytical literature on automobility regularly makes reference to its religious qualities. However, this refers only to what might be thought of as the negative aspects of religion: unreasoned adherence, obsession, cult and fetish. There is no meaningful morality or ethics of auto-mobility which, to the contrary, it encourages adherence and participation dulling the sense of its potential and actual consequences even to the self, let alone the wider worlds of fellow humanity and environment.

One widely noted fetishistic dimension of the car is its oft remarked sexual suggestiveness and extraordinary association with sex. It seems this was discovered at a very early stage with Henry Ford characteristically designing the seats of the Model T specifically to discourage the performance of sexual activity (Flink, 1988, p. 160; Marsh and Collett, 1986, p. 193). Whilst regular prudish comment in the US media decried this 'immoral' dimension of cars, manufacturers nevertheless recognised this as requiring satisfaction and designed cars such as to make sexual activity in cars more convenient. Surveys of sexual activity in the USA noted the widespread use of the car as venue for sexual activity and the extraordinarily high incidence of marriage proposals that take place in cars. The putative love affair(s) in and with the car have over the years been exploited in car advertising that covertly or overtly suggests the association between sexual desire and the desire for their products. This association has, furthermore, gone into the design of the vehicles themselves.[20]

A further fetishistic aspect of the car is the stark contradiction between the idea that it

represents freedom with the actuality of it being a most extreme version of a prison cell (Urry, 2000, p. 31). It is a legal requirement in almost all countries that drivers and passengers be securely strapped into their seats with little room for any significant movement. Once the car is under way, concentration is forced into the narrow path of watching the street and avoiding anything that might result in an accident that can happen any time within a split second. This situation can last for one or more hours a day to commuters whose experience either end of the journey is no different from that of people who work at home or next door and walk to work in a matter of minutes.

Risk and the critique of car culture

This brings one to the attitude towards the real danger which attaches to driving cars. There is a recognised cult of death experienced in a car crash.[21] The voyeuristic way in which drivers slow down to view what has happened as they pass accidents. Death of celebrities in car crashes commands very widespread attention and memory and whilst car crashes can sometimes be definitely attributed to suicide, it is suspected that considerable further numbers of crashes are in fact successful suicides. There is little doubt that the risks of driving are systematically discounted without rational foundation.[22] Could it be that there is actually a death wish haunting every car journey, an apotheosis of the hybrid relationship as suicidal love tryst or as the ultimate achievement of freedom— free of the travails of social life? Certain 'road movies' have suggested this, most directly *Vanishing Point*, referred to as the ultimate road movie (Sargeant and Watson, 1999, p. 89; Pascoe, 2002, p. 76), but many road movies have revolved around the theme of renegades from social conformity, presented as romantic heroes, who have absconded and ultimately met their death in or associated with cars (Cohan and Hask, 1977; Woollen and Kerr, 2002).

Thus whilst relatively absent from academic literature, the car has played an important part in the media.[23] The symbolism and passions embodied in and expressed through cars, while apparently deemed unimportant or perhaps too 'emotional' to become a serious subject for academic study, have become the subject of a wide spectrum of art. This includes implicit and explicit empathy with car passions, especially as background to fictional movies and to a lesser extent writing. But it has also occasionally played the role of critic of the car cult and fetishes. What the latter has not been able to inspire, however, is any wider consciousness of the extremity of the car obsession that might awaken a wider public to the need to bring it under control.[24]

What much of the recent analytical literature on auto-mobility has tried to do is escape from the radically critical language which clearly makes little impact on policy and no impact at all on popular attitudes.[25] It attempts a rapprochement, to empathise with the mentality of the driving public (i.e. almost every mature individual in Europe and North America) and thence to introduce critique as it were from the inside. Much of this recent literature seems to be written in the hope that it will contribute more effectively to critique (Roberts *et al.*, 1992; Sachs, 1992; Freund and Martin, 1993; Nadis and MacKenzie, 1993; Whitelegg, 1993). It has to be said, however, that whilst it might have become clear to the participants of the discourse where the problem lies with regard to the lack of social and political perspective on the devastating consequences of auto-mobility now and in the future, the issue becomes: Who is listening? Who even wants to hear? And finally, who is going to volunteer to spread the message, given the abject submission of the corporate popular media to the cult of auto-mobility?

One attitude of readers of this paper might be to see this as all rather exaggerated. Neither you nor your friends are wedded to your cars (maybe you don't even own one) and at least you and your friends are sensible and have

things in perspective.[26] Perhaps you live in a city where it seems most people travel by public transport (though a large proportion nevertheless owns a car 'for convenience' and/or for irregular journeys). The fact is that in the rich North, most people who can drive possess a car—maybe we should say more honestly are possessed by their cars. This is clear in the USA where there are 800 registered cars per 1000 population. But in Europe the figures are approaching saturation—and continuing to rise—ranging from Luxembourg with 700, through Germany and France with 600 to Denmark with a modest 450.[27]

The fact is that we do not have a reasonable perspective on what is happening. Furthermore, that this frame of mind covers not only cars but more broadly the whole range of our consumerist lifestyle, which we simply are not prepared to seriously question,[28] sealing it off from reasoning concerning its implications and our responsibility to face up to its problematic nature and pending disastrous consequences and take effective action. And to reiterate the central point for this paper: cars stand at the forefront of the way in which we are squandering energy and where at the start of their career they were a luxury appendage to the lifestyle of the rich, today the majority of the population of the northern countries are more or less dependent upon them. It is thus that as petroleum becomes progressively more expensive and thence simply no longer available, that we will inherit a world whose every corner will be infested with cars that no longer have any function. Put in this stark manner it may already sound shocking: these objects of so much of our love and fantasies brought to a standstill, in short dead, probably within the next one or two decades.

Coda

We like to think that we live in times when life is organised on a rational basis. We possess the sciences and with these the capacity to sort out what is fact and what fantasy. It would seem prima facie that such a society would be able to figure out what is best for everyone and then proceed to organise itself such as to achieve this. Perhaps it is precisely the confidence that things are going in the right direction that has relaxed our critical faculties and allowed us simply to follow out our desires without adequate consideration of the consequences. Not too long ago we possessed a world in which there were alternative ideas as to how to organise life. The communist vision was one where society was understood as the entity that organised human life. Life would be planned to achieve the welfare of all and 'socialist man' would possess a moral sense that ensured that this would succeed. Now, in Margaret Thatcher's famous phrase: 'there is no alternative' and the world we live in has to an extreme degree lost its critical faculties with regard to what is good for us.

The condition in which we find ourselves today is one where moral and ethical norms count for little[29] such that there is no meaningful controlling influence that would bring anything by way of a sense of responsibility into the way that our society operates. Liberalism already eschews initiative to search for and define an ethical framework to which the individual can (should, must) refer in taking life decisions. And what has happened as a consequence is that, miraculously, an external techno-structure has been created as if autonomously, today defining almost our every act. We obey rules made incidentally as a consequence of technical decisions, confirmed and amended by bureaucratic fiat and about which totally inadequate questions are raised with regard to their ethical implications.

Of course there is criticism—particularly from the Green Movement—of specific aspects of the techno-structure and indeed a minor, rather esoteric, discourse on 'environmental ethics' that tries to focus attention on the wrongness of much that is happening in and to our world.[30] The consequences are now coming into focus: a civilisation careering

towards its own self-destruction, not according to Karl Marx's expectation of a socio-political dénouement but due rather to the productive virtuosity of the civilisation accompanied by a fatal incapacity to take account of its relationship with its environment and resource base.[31]

Whilst it seems that, in the face of an increasingly clear view of the catastrophic consequences of 'progress' and 'development' and their liberal pied piper, we should come to our senses and seek a framework which makes a real impact on the strategic decisions that are steering our world down its suicidal path. Stop it now! Cast off our fatal lifestyle proclivities and find a reasonable way to a truly sustainable world! It seems today that the best we can hope for in the immediate future is to estimate the steps which the collapse of our civilisation is likely to take and in that context to forge tools, contingently, to try to ameliorate matters and to design as smooth a landing as we can—assuming that the dénouement should yield a world which is still habitable!

I would like by way of postscript to speak to the question of why the functioning of 'capitalism' has hardly been referred to in any of the foregoing discussion as the 'reason' for what is unfolding. It must be clear that 'blame' for what is happening could easily be attributed to the workings of capitalism. The expansive nature of European culture can obviously be looked at as being motivated by the capitalist drive to accumulate. Then when discussing in the course of the paper the role of corporations in promoting and indeed producing current lifestyles this is a clear reference to the modern machinery of capitalism.

However, it is my view that the concept of capitalism has come to be applied in a way that it loses the 'feel' of the way in which Occidental society has unfolded. Whilst being convinced of the usefulness of much of what Marx produced by way of analytical tools, by attributing the unfolding of Occidental culture to capitalism, one loses sight of possible evolutionary paths, including 'collapse'

and constructive alternatives 'after the revolution' or 'at the bottom of the cliff-face'. The approach to analysis used in this paper that develops viewpoints other than those presented by a 'conventional' analysis involving the concept of capitalism—and that is in places not, perhaps, so clear in the concepts it develops—is adopted with the intention of opening the window on post-capitalist futures that will not involve revolution (that was generally the mechanism seen as the dénouement of capitalism) but rather a much messier process of adjustment to the environmental and resource limits and, one hopes eventually, the 'emancipation' of humanity that Revolutions were supposed to deliver.

Notes

1 In the earlier paper I made reference to the World Bank (2006) report on *Global Economic Prospects 2007* containing a chapter on environmental problems with the main focus on global warming. A search of the chapter comes up with eight occurrences of the word 'catastrophic' to describe the probable results of global warming.

2 See Kovel (2007) for an interesting perspective on the Christian apocalyptic and its relevance to our predicament.

3 See Atkinson (1991, ch. 5) for a detailed analysis of this phenomenon.

4 For an analysis of the millenarian impulse in medieval European society, see Cohn (1970) and in more primitive societies see Worsley (1957).

5 In fact at the outset of the movement in the early 1970s, the *Ecologist* magazine's 'Blueprint for Survival' (Goldsmith *et al.*, 1972) initiative was an—albeit highly contentious—attempt to do this. For a brief period in the 1980s, the German Green Party seemed to be in the process of formulating a coherent 'concrete utopia' that got lost in the process of the party's integration into the world of 'realpolitik'. Of course reference should also be made to many hundreds of small 'intentional communities', many of which are consciously looking for a post-collapse lifestyle and decision-making processes but do so in quietist fashion, unambitious to take on the world of everyday politics.

6 In recent years Zygmunt Bauman has been prolific in analysing both the dissolution of social structures (2002) and the increasing precariousness of personal relations, using the analogy of liquefaction as in the titles of several of his books:

Liquid Modernity (2000), *Liquid Love* (2003) and *Liquid Life* (2007).

7 One is tempted to accept with such technological determinists as Ellul (1964) and Winner (1977) that technological development has its own inner structure and agenda independent of human needs or desires.

8 See Manuel and Manuel (1979) for a compendium indicating the immense richness of this tradition!

9 Whilst constantly expanding and contracting—and in the 14th century being engulfed in the mighty Mongol empire—the imperial impulse at the centre of China always remained within relative limits of the territory we now know of as China.

10 Namely, Bauman's (2000, 2002) insights into 'liquid modernity' and 'society under siege'.

11 Although not a theme often addressed in the pages of *CITY*, nevertheless for the case of northern Italy, see Foot (2000).

12 Catterall (1996, p. 185) on present-day civilisation: 'The car *is* certainly a defining instrument of expression.'

13 Miller (2001, p. 6) writes: '… the mainstream disciplines that might have addressed what has been introduced here as the humanity of the car— that is anthropology or sociology—have neglected the topic to a quite extraordinary degree, especially when compared to other examples of material culture such as food, clothing and the house'. Featherstone (2004, p. 1) writes: '… one of the dominant forms of mobility, automobility, has been a neglected topic within sociology, cultural studies and related disciplines'.

14 David Harvey's (1989, ch. 16) notion of the space-time compression of our age is still at a high level of generality and has not been translated into a practical enquiry into mobility. Bauman's (1992) search for a 'postmodern sociology' also makes no reference to mobility—albeit Bauman's more recent writing, like that of Harvey, suggests mobility might be an important dimension of 'liquid modernity'.

15 Whereas the moped cannot be said to possess the weight of symbolic and psychological baggage of the car discussed further below, it is introducing particularly in some Asian countries the loosening of social frameworks in providing the means to leave at an instant.

16 Not to be confused with the hybrid car technology! Alternatively the idea of the Cyborg (Gilroy, 2001, p. 89) is used or simply an 'assemblage' of man and machine as single entity.

17 Several of the essays in Miller (2001) focus on the details of the roles cars play in different subcultures.

18 This functionalist style of cars has now virtually disappeared as manufacturers strive to flatter the desires through suggestive design features.

19 Whilst the crisis—or transition to a new level of engagement of manufacturers seeking to satisfy consumer desires—was less evident in the USA, there is nevertheless the famous case of the failure of the Ford Edsel, designed following consumer inquiry (what people said they wanted) rather than sensing what it really takes to seduce.

20 Sex and cars is discussed at some length by Flink (1988, pp. 160–164) and in the wider context of thrill associated with cars by Marsh and Collett (1986, ch. 9).

21 Whilst this dimension is raised in many analyses of auto-mobility, see in particular Ballard (1994) and Brottman (2001).

22 See Beckmann (2001) for a thorough analysis of this phenomenon within the wider discourse on the 'risk society' and the notion of 'reflexive modernisation' initiated by Ulrich Beck (1992).

23 The compilation of Wollen and Kerr (2002) provides an excellent overview of the perspectives on the automobile provided by the arts.

24 Movies of movie sequences explicitly presenting the absurdities of car culture—such as Godard's *Weekend* or the opening sequence of Fellini's *8$^1/_2$*—remain as powerful fictional images without motivating any emotion that might lead to reactions in the real world and it should be noted that such presentations are few and far between!

25 See, for instance, Aird (1974), Williams (1991) and Wolf (1996). Dixon (1996, p. 158) in reviewing Wolf's book *Car Mania* in the pages of *CITY* concluded simply that 'We are not sane.'

26 But this applies only to a tiny minority of the kinds of intellectuals who read this kind of paper who do ruminate seriously and worry about these matters. I must confess that I possess a car …

27 Figures for 2002 approximated from the *OECD Factbook 2005*.

28 Or as George Bush Senior declared in the context of the United Nations Conference on Environment and Development (UNCED) in 1992: 'The American way of life is not negotiable!'

29 Already over 30 years ago, Alisdaire MacIntyre (1981) made clear the lack of any meaningful ethical norms in our society that might then have signalled the dangers of a trajectory out of control.

30 See particularly the debates in the pages of the journals *Environmental Ethics, Environmental Values* and *Capitalism Nature Socialism*.

31 James O'Connor's notion of the 'second contradiction of capitalism' that inspired much of the early debate in the journal *Capitalism Nature Socialism* is an intriguing attempt to extend Marxism into the critique of the interaction between our society and nature but, as an

add-on rather than a thorough reworking of Marxism, amounted in the end to no more than one more in a cacophonous world of proliferating discourses.

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