Driving in the City

Nigel Thrift

PERHAPS THE most famous and most reproduced piece of writing from Michel de Certeau's many works – anthologized or extracted almost to distraction – is the seventh chapter from *The Practice of Everyday Life* called 'Walking in the City'. In this article, I want to use that chapter as a jumping-off point, as a means of indexing and interrogating the nature of some (and only some) of the practices of the modern city. In particular, I want to lay the practice of walking that de Certeau uses as a sign of the human alongside the practice of driving. I want to argue that a hundred years or so after the birth of automobility, the experience of driving is sinking in to our 'technological unconscious' and producing a phenomenology that we increasingly take for granted but which in fact is historically novel. This new and very public sense of possession (de Certeau, 2000) which is also a possession of sense, constitutes a radically different set of spatial practisings of the city which do not easily conform to de Certeau's strictures on space and place and should at least give us pause.

The article is therefore in three main parts. In the first part, I will do no more than outline some of de Certeau's thoughts on spatial practices in the city. In the second part, I will then argue that de Certeau's work on everyday life needs to be reworked to take into account the rise of automobility and the consequent changes in how space is ordered, changes that cannot easily be subsumed into his account of the city. The third part of the article will argue that these changes have been even more far-reaching than might at first be imagined, as developments like software and ergonomics rework how automobility is practised, and that these developments presage an important change in the nature of this particular form of habitability. The article then concludes by returning to de Certeau's vision of everyday life in the city in order to take up again some of the challenges he bequeathed to us.

■ *Theory, Culture & Society* 2004 (SAGE, London, Thousand Oaks and New Delhi), Vol. 21(4/5): 41–59
DOI: 10.1177/0263276404046060

Walking in the City

As Ian Buchanan (2000) has rightly indicated, de Certeau's project in *The Practice of Everyday Life* was a tentative and searching one which cannot and should not be read as a set of fixed theoretical conclusions about the nature of the world but rather should be seen as a means whereby it becomes possible to open up more spaces within which the operational logic of culture can be addressed. And we can see the ways in which this project both foreshadowed and produced a set of distinctively modern concerns – with practices rather than subjects or discourses, with moving beyond a model of culture based purely on reading, with creativity as well as discipline, with new ways of articulating otherness, with the presence of capability on the margins as well as subservience (Terdiman, 2001), and so on. These concerns are now so well established, not least in large parts of cultural studies, that they are becoming a taken-for-granted background: not so much common endpoints as common starting points.

'Walking in the City'[1] starts atop of one of the towers of the World Trade Center, which for de Certeau constituted 'the tallest letters in the world' (2000: 101), a gigantic set of capital letters, a kind of sky writing if you like. For de Certeau, to be lifted to the summit of one of the towers and to look out was to feel a violent delight. Distanced from the roar of the 'frantic New York traffic' (2000: 101–2) and the location of the body in a criss-cross of streets, it is possible to think of the city as one vast and static panoramic text, able to be read because it is 'removed from the obscure interlacings of everyday behaviour' (2000: 102).

But down below, millions of walking bodies are engaged in a different kind of activity. Here I make no apology for quoting de Certeau at length, for the following passages from early on in the chapter seem to me to get to the nub of what he has to say:

> . . . it is below – 'down' – on the threshold where visibility ends that the city's common practitioners dwell. The raw material of this experiment are the walkers, *Wandersmänner*, whose bodies follow the cursives and strokes of an urban 'text' they write without reading. These practitioners employ spaces that are not self-aware; their knowledge of them is as blind as that of one body for another, beloved, body. The paths that interconnect in this network, strange poems of which each body is an element down by and among many others, elude being read. Everything happens as though some blindness were the hallmark of the processes by which the inhabited city is organized. The networks of these forward-moving, intercrossed writings form a multiple history, are without creator or spectator, made up of fragments of trajectories and alteration of spaces: with regard to representations, it remains daily, indefinitely, something other.
>
> Eliding the imaginary totalizations of the eye, there is a strangeness in the commonplace that creates no surface, or whose surface is only an advanced limit, an edge cut out of the visible. In this totality, I should like to indicate the processes that are foreign to the 'geometric' or 'geographic' space of

> visual, panoptic or theoretical constructions. Such spatial practices refer to a specific form of *operations* (ways of doing); they reflect 'another spatiality' (an anthropological, *poietik* and mystical spatial experiment); they send us to an opaque, blind domain of the inhabited city, or to a *transhuman city*, one that insinuates itself into the clear text of the planned, readable city. (2000: 102–3

In such passages, de Certeau shows some quite remarkable powers of theoretical foresight as he works towards other forms of habitability. In particular, he foreshadows the current strong turn to so-called 'non-representational' aspects of the city (e.g. Amin and Thrift, 2002) in his emphasis on the diachronic succession of now-moments of practice which emphasize perambulatory qualities such as 'tactile apprehension and kinesic appropriation' (de Certeau, 1984: 105), moments which are to some extent their own affirmation since they are an 'innumerable collection of singularities' (de Certeau, 1987: 97). He values a sense of invention[2] as a means of opening out sites to other agendas, so producing some degree of free play in apparently rigid social systems, and thereby foreshadowing the current demonstrative emphasis on performance. He also begins to think through the quite different spatial dynamics that such a theoretical-practical stance entails, a stance in which other kinds of spatial knowings are possible.

But, at the same time, I think we also have to see that de Certeau cleaves to some old themes, all based on the familiar model of (and desire for) what Meaghan Morris (1998) nicely calls 'evasive everdayness', and I want to concentrate on three of these. One such theme, highlighted by numerous commentators, is that he never really leaves behind the operations of reading and speech and the sometimes explicit, sometimes implicit claim that these operations can be extended to other practices. In turn, this claim that 'there is a correspondence or homology between certain enunciative procedures that regulate action in both the field of language and the wider network of social practices' (Gardiner, 2000: 176) sets up another obvious tension, between a practice-based model of often illicit 'behaviour' founded on enunciative speech-acts and a text-based model of 'representation' which fuels functional social systems. I am uneasy with this depiction because of its tendency to assume that language is the main resource of social life (cf. Thrift, 1996, 2000, 2003) and the obvious consequence; close readings can quite easily become closed readings. Another is that de Certeau insists that much of the practice of everyday life is in some sense 'hidden' away, obscured, silenced and able to be recovered only by tapping the narrative harmonics of particular sites which 'are fragmentary and convoluted histories, pasts stolen by others from readability, folded up ages that can be unfolded but are there more as narratives in suspense . . .' (1984: 115). Each site has a kind of unconscious, then, an 'infancy' which is bound up with the movements of its inhabitants and which can be pulled back into memory – but only partially. I am similarly uneasy with this kind

of depiction precisely because of its psychoanalytic echoes, for they seem to me to rely on a familiar representational metaphysics of presence and absence of the kind extensively criticized by Michel Henry (1993) and others in relation to certain kinds of Freudianism. A final questionable theme is de Certeau's implicit romanticism, which comes, I think, from a residual humanism.[3] Now I should say straight away that I am not convinced that a residual humanism is necessarily a bad thing (cf. Thrift, 2000) but in this case it leads de Certeau in the direction of a subterranean world of evasive urban tactics produced by the weak as typified by practices like walking 'as a model of popular practice – and critical process' (Morris, 1998: 110) which I believe to be profoundly misleading for several reasons. For one, as Meaghan Morris (1998) has so persuasively argued, de Certeau's pursuit of the apotheosis of the ordinary in the ordinary arising from his equation of enunciation with evasion, creates all manner of problems. Not only does it produce a sense of a beleaguered, localized (though not necessarily local) 'anthropological' everyday of poetry, legend and memory[4] being squeezed by larger forces, thus embedding a distinction between small and large, practice and system, and mobility and grid which is surely suspect (Latour, 2002), but it also chooses an activity as an archetype of the everyday which is far more ambiguous than it is often made out to be: for example, it is possible to argue not only that much walking, both historically and contemporarily, is derived from car travel (and is not therefore a separate and, by implication, more authentic sphere)[5] but also that the very notion of walking as a deliberately selected mode of travel and its accompanying peripatetic aesthetic of being somehow closer to nature – or the city – has itself been carefully culturally constructed in representation itself in concert with the evolution of automobility (Solnit, 2000; Wallace, 1993).[6] Thus, when Solnit (2000: 213) declares that de Certeau 'suggests a frightening possibility: that if the city is a language spoken by walkers, then a postpedestrian city not only has fallen silent but risks becoming a dead language, one whose colloquial phrases, jokes, and curses will vanish, even if its formal grammar survives', she may be missing other languages which also have something to say.

In the next section, I want to argue that if these three themes were thought to contain suspect assumptions in the 1970s then they are now even more problematic. I want to illustrate these contentions via a consideration of contemporary automobility[7] because I believe that the knot of practices that constitute that automobility provide a real challenge to elements of de Certeau's thought, especially as these practices are now evolving. Neither in *The Practice of Everyday Life* nor elsewhere in de Certeau's writings on the city have I been able to find any sustained discussion of the millions of automobile 'bodies' that clog up the roads:[8] de Certeau's cities echo with the roar of traffic but this is the noise of an alien invader.[9] However, in the short interlude following 'Walking in the City' – Chapter 8, 'Railway Navigation and Incarceration' – there are some clues to this absence, at least. For de Certeau, the train (and the bus), it turns out, is a 'travelling

incarceration' in which human bodies are able to be ordered because, although the carriage is mobile, the passengers are immobile.

> Only a rationalized cell travels. A bubble of panoptic and classifying power, a module of imprisonment that makes possible the production of an order, a closed and autonomous insularity – that is what can traverse space and make itself independent of local roots. (1987: 111)

Continuing in this Foucaldian vein, de Certeau tells us that inside the carriage:

> There is the immobility of an order. Here rest and dreams reign supreme. There is nothing to do, one is in the state of reason. Everything is in its place, as in Hegel's *Philosophy of Right*. Every being is placed there like a piece of printer's type on a page arranged in military order. This order, an organizational system, the quietude of a certain reason, is the condition of both a railway car's and a text's movement from one place to another. (1987: 111)

De Certeau then switches from a panoptic to a panoramic (Schivelsbuch, 1986) mode:

> Outside, there is another immobility, that of things, towering mountains, stretches of green field and forest, arrested villages, colonnades of buildings, black urban silhouettes against the pink evening sky, the twinkling of nocturnal lights on a sea that precedes or succeeds our histories. The train generalizes Dürer's *Melancholia*, a speculative experience of the world: being outside of these things that stay there, detached and absolute, that leaves us without having anything to do with this departure themselves: being deprived of them, surprised by their ephemeral and quiet strangeness. . . . However, these things do not move. They have only the movement that is brought about from moment to moment by changes in perspective among their bulky figures. They have only *trompe-l'oeil* movements. They do not change their place any more than I do; vision alone continually undoes and remakes these relationships. (1987: 111–12)

Leaving aside the evidence that de Certeau had clearly never travelled on the Dickensian British rail system, what we see here is the classic account of machine travel as distantiated and, well, machine-like. We can assume that de Certeau might have thought of cars, though of a less spectatorial nature (at least for their drivers), as having some of the same abstracted characteristics. But, if that is the case, it would be a signal error. For research on automobility shows the world of driving to be as rich and convoluted as that of walking. It is to telling this world that I now turn.

Driving in the City

The automobile has been with Euro-American societies for well over a century and since about the 1960s (not coincidentally, the time of de Certeau's observations on the city) the car has become a common feature of

everyday life itself (Brandon, 2002; Thrift, 1990), almost a background to the background. Take as an example only the utter familiarity of automobile-related urban lighting from the orange glow of streetlights and their counterpoint of gaudy lit signs through the constant flash of car headlights to the intermittent flicker of the indicator. As Jakle (2001: 255) observes 'by 1970, the influence of the automobile on night-time lighting was felt in its entirety. . . . Cities were lit primarily to facilitate the movement of motor vehicles.' Around a relatively simple mechanical entity, then, a whole new civilization has been built; for example, the layout of the largest part of the Euro-American city space assumes the presence of the complicated logistics of the car, the van and the truck (Beckmann, 2001; Sheller and Urry, 2000; Urry, 2004). We can go farther than this; whole parts of the built environment are now a mute but still eloquent testimony to automobility. As Urry (2000: 59) puts it, 'the car's significance is that it reconfigures civil society involving distinct ways of dwelling, travelling and socialising in and through an automobilised time-space'. For example, most recently, large parts of the landscape near roads are being actively moulded by formal techniques like viewshed analysis so that they make visual sense to the occupants of cars as they speed by[10] or by more generalized developments like so-called time-space geodemographics which conceptualize the commuting system as a whole and are trying to produce continuously changing advertising on the multitude of signs scattered along the sides of roads, signs which will adjust their content and/or message to appeal to the relevant consumer populations that inhabit the highways at each time of day.[11] And then there is a whole infrastructure of specialized buildings that service cars and car passengers, from the grandest service stations to the humblest of garages (e.g. Jakle and Sculle, 2002). We can go farther again. Automobiles have themselves transmuted into homes: for example, by one reckoning 1 in 14 US Americans now live in 'mobile homes' of one form or another (Hart et al., 2002).[12]

Until recently, however, this remarkable complex has been largely analysed in purely representational terms by cultural commentators as, for example, the symbolic manifestation of various desires (see, for example, most recently, Sachs, 2002). But, as de Certeau would have surely underlined, this system of automobility has also produced its own embodied practices of driving and 'passengering', each with their own distinctive histories often still waiting to be written. Though we should not of course forget that how the car is put together, how it works and how and where it can travel are outwith the control of the driver, yet it is still possible to write of a rich phenomenology of automobility, one often filled to bursting with embodied cues and gestures which work over many communicative registers and which cannot be reduced simply to cultural codes.[13] That is particularly the case if we are willing to travel off the path of language as the only form of communication (or at least models of language as the only means of framing that communication) and understand driving (and passengering) as both profoundly embodied and sensuous experiences, though of a particular kind, which 'requires and occasions a metaphysical merger, an intertwining of the

identities of the driver and car that generates a distinctive ontology in the form of a person-thing, a humanized car or, alternatively, an automobilized person' (Katz, 2000: 33) in which the identity of person and car kinaesthetically intertwine.[14] Thus driving, for example, involves the capacity to:

> . . . embody and be embodied by the car. The sensual vehicle of the driver's action is fundamentally different from that of the passenger's, because the driver, as part of the praxis of driving, dwells in the car, feeling the bumps on the road as contacts with his or her body not as assaults on the tires, swaying around curves as if the shifting of his or her weight will make a difference in the car's trajectory, loosening and tightening the grip on the steering wheel as a way of interacting with other cars. (Katz, 2000: 32)

Perhaps the best way to show this sensuality is through the work of Jack Katz (2000) and his students. Through detailed study of driving behaviour in Los Angeles, Katz shows that driving is a rich, indeed driven, stew of emotions which is constantly on the boil, even though cars prevent many routine forms of intersubjective expression from taking shape – indeed the relative dumbness of driving and especially its lack of opportunity for symmetrical interaction may be the key aggravating factor. Katz is able to demonstrate four main findings. First, that drivers experience cars as extensions of their bodies. Hence their outrage on becoming the subject of adverse driving manoeuvres by other drivers: their tacit automobilized embodiment is cut away from them and they are left 'without any persona with which one can relate respectably to others' (Katz, 2000: 46). Second, that, as a result of this and the fact that drivers attach all manner of meanings to their manoeuvres that other drivers cannot access (what Katz calls 'life metaphors'), driving can often be a highly emotional experience in which the petty realities of everyday situations are impressed on an unwilling recipient causing anger and distress precisely because they are so petty, or in which a carefully nurtured identity is forcefully undermined causing real fury. Third, that the repertoire of reciprocal communication that a car allows is highly attenuated – the sounding of horns, the flashing of headlights, the aggressive use of brake lights and hand gestures – within a situation that is already one in which there are limited cues available, occasioned by the largely tail-to-tail nature of interaction. Drivers cannot therefore communicate their concerns as fully as they would want and there is therefore a consistently high level of ambiguity in driver-to-driver interaction. As a result, a considerable level of frustration and anger (and frustration and anger about being frustrated and angered) can be generated.[15] But, at the same time, driving, and this is the fourth finding, is:

> . . . a prime field for the study of what Michel de Certeau called the 'tactics' of contemporary everyday life. Many people develop what they regard as particularly shrewd ways of moving around society. These include carefully choosing streets that one knows carry little traffic, sneakily cutting across corner gas stations to beat traffic lights, discreetly using another car as a

> 'screen' in order to merge onto a highway, passing through an intersection, and brazenly doubling back to avoid the queue in a left-turn lane, and such triumphs of motoring chutzpah as following in the smooth-flowing wake of an ambulance as it cuts through bottled traffic. (Katz, 2000: 36)

At the same time, such tactics are very often read as violations of moral codes by other drivers, leading to all manner of sensual/driving expressions which are attempts to take the moral high ground and so bring to an end episodes of anger and frustration.

What Katz's work reveals, then, is an extraordinarily complex everyday ecology of driving. It makes very little sense to think of such express moments of automobility as just cogs in a vaulting mechanical system (though I am certainly not arguing that they are not that too), or simply an assertion of driver independence. Rather, they are a complex of complex re-attributions which very often consist of interesting denials of precisely the interconnections that they are intent on pursuing (Dant and Martin, 2001).

But, there is one more point to make, and that is that the nature of automobility is itself changing. The car cum driving of the 21st century is no longer the same knot of steely practices that it was in the 20th. It has been joined by new and very active intermediaries and it is this change that is the subject of the next section.

The Changing Nature of Driving

Katz (2000: 44) points to the way in which cars are beginning to change and, in the process, are producing a new kind of phenomenology when he writes that:

> The marketing of cars has long offered the potential of publicly displaying oneself to others in an enviable form but also the promise of a private daily metamorphosis affording hands-on, real world, sensual verification that one fits naturally into a peaceful, immortal, or transcendent form. Cars are increasingly designed in elaboration of this message. The button that will automatically lower the window happens to be just where the driver's hand naturally falls. His key is a bit different than hers, and when he begins to work it into the ignition, the driver's chair 'knows' to adjust itself to a position that is tailored to his dimensions and sense of comfort. Cars have replaced watches . . . as the microengineered personal possession that, like a miniature world's fair exhibit, displays the latest technological achievements to the masses. Also, like watches, cars can be readily consulted as a reassuring touchstone for the assessment of messier segments of one's life. (Katz, 2000: 44)

I want to approach the way that what was thought to be a mature technology is currently changing and transmuting into something quite different by an oblique route whose relevance will, I hope, become clear. For I want to argue that cars are one of the key moments in the re-design of modern urban environments in that they bring together a series of reflexive

knowledges of 50 or so years vintage now, which are both technical and also – through their attention to 'human factors' – close to embodied practice and can be considered as some of the first outposts of what might be called, following the work of the late Francisco Varela and his colleagues, the 'naturalization of phenomenology'. Of course, scientific knowledges have been routinely applied to the urban environment for a long time, but I believe that the sheer scale and sophistication of what is happening now amount to something quite different: a studied extension of the spatial practices of the human which consists of the production of quite new material surfaces which are akin to life, not objects, and thereby new means of bodying forth: new forms of material intelligence producing a new, more fluid transubstantiation.[16]

This transubstantiation is taking place in four ways. First, as Stivers (1999) has noted, it is foreshadowed in language itself: what were specifically human qualities have been externalized onto machines so that computers, for example, now have 'memories' and 'languages' and 'intelligence'. Concomitantly, human relationships have taken on machine-like qualities: we create 'networks' and 'interface' with others. But it goes deeper than that. So, second, it is arising from a continuous process of critique, as knowledges about technological and human embodied practices circle around and interact with each other, producing new knowledges which are then applied and become the subject of even newer knowledges in a never-ending reflexive loop. Then, third, as a result of the previous cumulative process of critique, automobiles become more and more like hybrid entities in which intelligence and intentionality are distributed between human and non-human in ways that are increasingly inseparable: the governance of the car is no longer in the hands of the driver but is assisted by more and more technological add-ons to the point where it becomes something akin to a Latourian delegate; 'first, it has been made by humans; second, it substitutes for the actions of people and is a delegate that permanently occupies the position of a human; and, third, it shapes human action by prescribing back' (Latour, 1992: 235). Thus, increasingly, 'cars' are not just machines whose meanings are stamped out by 'culture' (Miller, 2001) but have their own qualities which increasingly approximate the anthropological spaces that de Certeau is so concerned to foster and protect. And, fourth, as already foreshadowed, this transubstantiation is the result of explicitly operating on the phenomenological space of habitability that is focused on the car, consisting of both the space of the flesh and the space surrounding the body, in order to produce new bodily horizons and orientations (Changeux and Ricoeur, 2002). In this transubstantiation, objects are increasingly allowed their own place in the solicitations of a meaningful world.[17] They become parts of new kinds of authority.

If we take a tour around the modern car we can see two main ways in which this extension of extension through the systematic application of knowledge about embodied human practice – and the interaction between technology and embodied human practice – is taking place. One is through

computer software (Thrift and French, 2002). Software is a comparatively recent historical development – the term itself has only existed since 1958 – and though recognizable computer software has existed in cars since the 1970s, it is only in the last 10 years or so that software, in its many manifestations, has become an integral element of the mechanics of cars, moving down from being in the province of luxury cars only to becoming a norm in the mass market. Now software controls engine management, brakes, suspension, wipers and lights, cruising and other speeds,[18] parking manoeuvres, speech recognition systems,[19] communication and entertainment, sound systems, security, heating and cooling, in-car navigation and, last but not least, a large number of crash protection systems. Almost every element of the modern automobile is becoming either shadowed by software or software has become (or has been right from the start, as in the case of in-car navigation systems) the pivotal component. The situation is now of such an order of magnitude greater than in the past that manufacturers and industry experts are quite seriously discussing the point at which the software platform of a car will have become so extensive that it will become one of the chief competitive edges; customers will be loath to change to different makes because of the investment of time needed to become familiar with a new software environment and style.[20] Such an allegiance might be strengthened by the increasing tendency for automobiles to become locations of activity other than driving; places for carrying out work, communicating, being entertained and so on, via a legion of remote services.

Increasingly, automobile software also reaches beyond the vehicle itself. So, for example, 'intelligent vehicles' drive on 'intelligent streets' loaded up with software that surveys and manages traffic, from the humblest traffic light phasing to the grand visions of integrated transport management systems that will increasingly control traffic flow while giving an illusion of driver freedom. Each hybrid will become simultaneously a moment in a continuously updated databank of movement.

The other extension is through the application of ergonomics. Ergonomics (or 'human factors'),[21] like software, originated in the Second World War and has existed as a formal discipline since the late 1940s (Meister, 1999). However, its widespread application has only come about since the 1980s, most especially with the advent of automated systems (Sheridan, 2002). It is an amalgam of anatomy, physiology and psychology with engineering dedicated to the careful study of human–technology interactions and mostly concerned with creating new and more 'friendly' interfaces in which arrays of different objects act as one smooth process by reworking system complexity.[22] Although it argues that it is attempting to increase the cognitive fit between people and things, it might just as well be thought of as an exercise in hybridization, producing new forms of 'humanization', rather than simply discrete sets of interactions, by producing new kinds of authority.

The application of these two knowledges can be seen as simply a way of compensating for human error, or it can be seen as a symptom of

something much more far-reaching; a practical working-through of a more abstract project, namely the grounding of phenomenology in scientific, naturalistic principles. Now this, of course, might seem an odd project, given Husserl's consistent opposition of naturalistic methods to the sciences of 'man' but, grouped around an alliance of workers in artificial intelligence (AI), cognitive science and the like who have valorized embodied action, what we can see is a concerted project to represent the non-representational through scientific principles, mainly by working on the very small spaces and times of movement that can now be apprehended and worked with in order to produce a 'structural description of becoming aware'. Through such a project of the scientific renewal of phenomenology, in which intentionality is naturalized, objects like cars can then become very exactly computed environments in which, to use a famous phrase, 'the world is its own best model' (Brooks, 1991: 142), both in the sense of cleaving to a particular scientific approach and in the engaged sense that what works works. In other words, cars become examples of 'geometrical descriptive eidetics' based on differential geometry and topology and designed for 'inexact morphological essences', essences that do not conform to a fundamental classical physical account but that are still amenable to a naturalized description, especially since the advent of complex system models (Petitot et al., 1999). Such forms can only come into the world because of the advent of large-scale computing and software, thereby demonstrating a pleasingly circular generativity.

What we can see as a result of these developments is something very interesting. First, driving the car becomes much more closely wrapped up with the body (or, at least, a naturalized view of embodiment) via the active intermediaries of software and ergonomics. Senses of weight and road resistance are reconfigured. What the driver 'listens' to and works on is altered. Relatedly, much more of the judgement involved in driving is now being either imposed or managed by software (for example, through innovations like traction control and ABS). In the process, almost certainly – even given hysteresis effects – this new kind of coded governmentality is producing safer road conditions. As a result, it is now commonly argued that software-based innovations like those mentioned, when combined with the better ergonomic design of controls, seating and steering, combine to produce 'better' driving experiences by giving more exact (in fact, more heavily intermediated) embodied contact with the road.[23] Second, the car becomes a world in itself. Sound and even video systems, climate control, better sound insulation, ergonomically designed interiors, easy recall of certain memories and the like, all conspire to make the car into a kind of monad which increasingly refers to the world outside itself via heavily intermediated representations. Third, the car increasingly becomes locatable to itself and to others in a burgeoning artificial ethology.[24] The advent of a mixture of geographical information systems, global positioning and wireless communications means that getting lost will no longer be an option and, equally, that increasingly it will be possible to track all cars, wherever they may be. The result is that both surveying and being surveyed will

increasingly become a norm: it is even possible that, through the new informational and communicational conduits that are now being opened up, some of the social cues that have been missing from the experience of driving will be re-inserted (for example, who is driving a particular car), making the whole process more akin to walking again, but with a new informationally boosted hybrid body, a new incarnation.

We therefore arrive in a world in which knowledge about embodied knowledge is being used to produce new forms of embodiment-cum-spatial practice which are sufficiently subtle and extensive to have every chance of becoming a new background to everyday life. No doubt, a fellow *traversiste* of de Certeau like Virilio would be inclined to make such developments into a part of a humanist meltdown, a window on to a brave new informational world which is frighteningly sterile, a further chapter in the 'data coup d'état' which comes about through relying on informational models that model people as machines.

> The horsepowered car was motorized with the aid of the synthetic energy of the combustion engine in the course of the transport revolution and is now gearing up to *motorize the reality of space*, thanks to the digital imagery of the computer motor, perceptual faith letting itself be abused, it would seem, by the virtuality generator. Dynamized by the artifice of continuous speed, the real-space perspective of the painters of the Quattrocento then gives way to the real-time perspective of the computer cognoscenti of the Novocento, thereby illustrating surrealist writings of the 1930s: 'One day science will travel by bringing the country we want to visit to us. It will be the country that visits us, the way a crowd visits some animal in a cage; then the country will leave again, miffed at having stirred itself for so little.'[25] (Virilio, 1995: 151, author's emphasis)

In part, as we have seen from his musings on rail travel, I think that de Certeau might have subscribed to this kind of line. But I think his positive sense of the mundane, combined with a realization that more and more software and ergonomics is derived from models of embodied knowledge which arise precisely out of the critique of informational models put forward by authors like Merleau-Ponty upon which he drew (which is now, ironically, being written into the software that surrounds us), would have made him pull back and head for a more nuanced interpretation. At least, I like to think so.

Conclusions

Such auto-mobile developments as I have laid out in the previous section lay down a set of challenges to de Certeau's work which I want to use to fashion a conclusion to this article. Given that de Certeau's project was a tentative and developing one, and embedded in a particular historical conjuncture, none of these criticisms need to be seen as necessarily disabling, but they are at least interestingly problematic. In order to bring

some structure to these challenges, I will backtrack to the three criticisms of de Certeau made in the second section of this article and use these criticisms to sketch a rather different sense of the everyday in the city.

I want to begin by returning to de Certeau's continued reduction of practices to a generally cursive model. I have described this practice as problematic. But I think that it can be read more sympathetically in another way – as prefiguring a real historical change in which large parts of what were considered as non-representational embodied practice begin to be represented as they are brought into a kind of writing, the writing of software. It has, of course, been a constant in history to produce systems for describing human embodied movement of which conventional writing was only ever one: other systems of notation have abounded (cf. Finnegan, 2002; Guest, 1989). But what we can see in the current prevalence of software is embodied spatial and temporal practices being minutely described and written down using this new form of mechanical writing; to use another theoretical vocabulary, bare life is being laid bare – and then cursively extended (Thrift, 2003). Interestingly, de Certeau himself begins to provide the beginnings of a vocabulary for describing this change later in *The Practice of Everyday Life* (though admittedly in a different context) when he writes in his brief history of writing in Chapter 10 about a new form of scriptural practice which is not married to a reality of meaning but is a writing given over to its own mechanisms. This is 'a model of language furnished by the machine, which is made of differentiated and combined parts (like every enunciation) and develops, through the interplay of its mechanisms, the logic of a celibate narcissism' (de Certeau, 1984: 152). And we can interpret automobile hybrids as made up of flesh, various mechanical components – and such a form of writing (de Certeau's body, tool and text), gradually taking in the other two. As I have already pointed out, such a development can be seen in wholly negative terms as existing alongside what de Certeau (1984: 153) calls a 'galloping technocratization', but I prefer to think of it as also offering new possibilities for the extension of physical extension and thought.

The second challenge arises from the use of adjectives like 'hidden'. I think that such a description of large parts of everyday life has become an increasingly mistaken one. The sheer amount of locationally referenced information about everyday life that is available or is coming on stream, and which, by using wireless, GIS, GPS and other technologies will be constantly updated, suggests that most of the spaces of everyday life will no longer be hidden at all. Indeed, they are likely to be continually catalogued on a real-time basis using categorizations and geometries that are themselves constitutive of subjectivity.[26] But I would argue that much of what actually characterizes everyday life – the creative moments arising out of artful improvisation on the spur of the moment – will still continue to be opaque to systematic surveillance: there will still be 'strangeness in the commonplace'. It is these performative moments of narrative dissonance that we should be concentrating on. It may therefore be that, in contemporary social

systems, it is not so much hiding as trying to fashion different modes of visibility that is crucial.

The third challenge arises from de Certeau's weak humanism. The problem, of course, as Deleuze, Latour and many others have continually emphasized, is 'What is human?'. The answer is rather less clear now than it was 20 or so years ago but, equally, the possibilities of what counts as 'humanity' have expanded. What seems clear to me is that it is not necessary to equate the human with the near and local, the slow and the small, as Gabriel Tarde pointed out well over a hundred years ago (see Latour, 2002): though de Certeau's humanism comes with a heavy dose of the scriptural, it is difficult to escape the conclusion that when it comes to the kind of liberatory spatial practices he is willing to envisage, that writing is still handwriting. In an age when electronic signatures are becoming the norm, this is, in a quite literal sense, anachronistic – and whatever the spatial equivalent of that term might be.[27] But, equally, de Certeau's appeal to a 'trans-human' city surely still retains its force.

Which brings me to a final point. As the example of driving shows, new modes of embodiment are being invented by the grand experimental forces of capitalism, science and war. One very popular reaction to such developments is to fall back on a narrative of beleaguered-ness, in which everyday life is gradually being crushed by forces outside its control. But another reaction is to argue that such models are at root too simple to be adequate to a situation in which new capacities are continually being formed as well as new modes of control. This might be seen as a Panglossian response: I prefer to see it as a re-affirmation of a de Certeauian politics of 'opening the possible' (Giard, 1997), which realizes that new spaces for action are continually being opened up as old ones are closed down. New and friendly habitabilities are therefore constantly on the horizon, some of which may still be able to be realized. Escape, no. Work with and on, yes.

Acknowledgements

This paper was written for the 'De Certeau Now' Conference held at the Watershed Media Centre in Bristol in September 2002. I would like to thank the organizer, Ben Highmore, and the other speakers, especially Jeremy Ahearne, Tom Conley, Alan Read and Michael Sheringham, for their comments. I owe a particular debt of gratitude to Tom Conley for the knowledge of de Certeau he subsequently so kindly shared with me. In addition, two anonymous referees helped me to focus the article further in very productive ways, as did Geof Bowker, Michael Curry and Stuart Elden. As usual, John Urry provided a series of insightful comments.

Notes

1. In what follows, I have generally used the translation in the volume edited by Blonsky, retitled 'Practices of Space' (de Certeau, 1987) which generally strikes me as clearer than the Rendall translation in de Certeau (2000).

2. Hence, the original French title of *The Practice of Everyday Life*, namely *L'Invention du quotidien*.

3. De Certeau's humanism is not one that proceeds from a fully formed human subject but is based in practices, and the tension between humans to be found in the encounters that take place within them. According to Conley (2001: 485), it combines a residue of Hegelianism or existentialism with Christian ethics.

4. This distinction between anthropological space and the geometrical space of grids and networks is taken from Merleau-Ponty (Conley, 2001).

5. In any case, to take the UK as an example, journeys on foot now account for only between a quarter and a third of all journeys, and are still declining as a proportion of all journeys. However, this proportion is higher in inner urban areas (Hillman, 2001).

6. From the vast scriptural apparatus of the travel industry to the evolution of videos on power walking (Morris, 1998).

7. I make no value judgements about automobility here because these judgements seem to me to have too often stood in the way of an understanding of the attractions of the phenomenon. This is certainly not to say, however, that I am some kind of fan of automobility, and for all the usual reasons (see Rajan, 1996).

8. There may, of course, be a simple, if rather glib, explanation for this elision: in 1967, driving with his parents from his brother's house to a restaurant, de Certeau was involved in a serious automobile collision in which his mother was killed and he lost the sight of one eye. Miraculously his father, the driver, was hardly injured at all. Apparently, according to Dosse (2002), the accident caused de Certeau considerable guilt because he felt he had been responsible for the delay which caused his father to drive so fast. I am indebted to Tom Conley for this information. As Stuart Elden has noted in a personal communication, this lack of the presence of the automobile is in marked contrast to a writer like Henri Lefebvre, who mentions cars at various points in his works. Lefebvre was, of course, a cab driver for two years of his life.

9. Some other *traversiste* authors like Paul Virilio and, latterly, Marc Augé do tackle the automobile, but in a high-handed and, more often than not, hyperbolic tone that I want to get away from.

10. These techniques of wholesale landscape design have existed since at least the 1930s. The work of Merriman (2001, 2004) shows how important they were in, for example, the construction of the British motorway system. I am indebted to Geof Bowker for pointing me to viewshed analysis.

11. I am indebted to Michael Curry for this information.

12. This statistic includes a good number of homes in trailer parks and custom-designed 'estates' that are only nominally mobile, it should be added. Some of these homes now have to comply with local building codes but, even so, even the most immobile mobile homes are still sold, financed, regulated and taxed as vehicles.

13. Thus, there is a whole 'manipulatory area', as G.H. Mead put it, of sensing objects which cannot be understood as just the incarnation of symbolic systems but relies on various kinaesthetic dispositions held in the bodily memory. In turn, we can speak of objects pushing back.

14. As Katz (2000: 46) rightly points out, this hybrid cannot be precisely located: 'The driver operates from a moving point in a terrain for interaction, and that terrain is defined in part by the driver's current style of driving.'

15. Drivers often seem to assume that other forms of road user embodiment (e.g.

cyclists) should conform to the same rules of the road as they do and become irate when such users follow what seem to be, in some sense, unfair tactics.

16. Thus, by one account, automobile electronics now account for more than 80 percent of all innovation in automobile technology. On average, modern cars now have some 4 km of wiring in total. In some higher-end vehicles, electronics components account for 20 to 23 percent of total manufacturing cost. By 2005, by one estimate, higher-end vehicles will require an average power supply of 2.5 KW and consequently there are moves towards 36-volt batteries and 42-volt systems (Leen and Heffernan, 2002).

17. Such a viewpoint is, of course, congruent with many intellectual developments of late, such as actor-network theory and other developments originating from the sociology of science (cf. Schatzki, 2002), and is taken to its farthest extreme by Rouse (1996: 149) who denotes 'practice' in such a way that it can embrace the actions of both humans and non-humans as 'the field within which both the determinations of objects and the doings and respondings of agents are intelligible'. Clearly, such a development can itself be taken to be historically specific.

18. A number of cars now have speed limiters. More impressively, one car manufacturer has now introduced so-called active cruise control, which senses the traffic ahead and throttles back or even brakes if the driver gets too close to the car ahead.

19. I have always puzzled about how de Certeau would interpret speech recognition systems: as yet another blow for the binary logic of an informationalized capitalism, as a new form of machinic enunciation, and so on.

20. To some extent, this process is already happening in a muted form. As one referee pointed out, software is already a means by which manufacturers tie their purchasers to a service relationship. For example, if a boot lock fails on some models, the onboard systems fail, and the solution – which in the past was mechanical – now requires the application of specialist software and technical know-how.

21. The two terms are nearly interchangeable but 'ergonomics' is often reserved for a narrower aspect of human factors dealing with anthropometry, biomechanics and body kinematics whereas 'human factors' is reserved for wider applications. Terms like 'cognitive engineering' have also come into vogue.

22. The sheer number of switches and instruments on modern cars has become an ergonomic problem in its own right, since 'dashboard clutter' is thought to have significant safety risks. All manner of solutions are being tried, such as rotating dials.

23. One referee pointed out that such developments may change the nature of 'driving' as a skill, rather in the way that a new driving skill has become spotting speed cameras and taking appropriate action. Certainly, developments like in-car satellite navigation are already transferring way-finding skills to software. Presumably, other skills will follow as cars and cities increasingly drive drivers.

24. Indeed, one of the key technological frontiers is currently artificial ethology and there is every reason to believe that innovations from this field will make their way into automobility (Holland and McFarland, 2001).

25. The quotation is from a 1930s text by Saint-Paul Roux called *Vitesse*.

26. The recent science fiction novel by Clarke and Baxter (2002) can, I think, be seen as a meditation on this state of affairs.

27. 'Anachoristic', presumably. However, it is important to note, as Conley (2001)

has pointed out, that de Certeau had some hopes for the liberatory potential of new computer technology.

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Nigel Thrift is a Professor in the School of Geographical Sciences at the University of Bristol. His interests include international finance, management knowledges, the history of time and non-representational theory. He is currently working on the interface between the digital and the biological. His most recent books include *Cities* (with Ash Amin, Polity, 2002), *The Handbook* of *Cultural Geography* (co-edited with Kay Anderson, Mona Domosh and Steve Pile, Sage, 2003), and *Patterned Ground* (co-edited with Stephen Harrison and Steve Pile, Reaktion, 2003).