



## Department of Sociology



### **On-Line Papers – Copyright**

This online paper may be cited or briefly quoted in line with the usual academic conventions. You may also download them for your own personal use. This paper must not be published elsewhere (e.g. to mailing lists, bulletin boards etc.) without the author's explicit permission.

Please note that if you copy this paper you must:

- include this copyright note
- not use the paper for commercial purposes or gain in any way
- you should observe the conventions of academic citation in a version of the following form:

Anne Cronin, *Calculative Spaces: cities, market relations and the commercial vitalism of the advertising industry* published by the Department of Sociology, Lancaster University, Lancaster LA1 4YL, UK at  
<http://www.lancs.ac.uk/fss/sociology/papers/cronincalculativespaces.pdf>

### **Publication Details**

This web page was last revised on 26th September 2003.

Dr Anne Cronin  
Sociology Department  
Lancaster University  
Lancaster LA1 4YD  
UK

[a.cronin@lancaster.ac.uk](mailto:a.cronin@lancaster.ac.uk)

**‘Calculative spaces: cities, market relations and the  
commercial vitalism of the advertising industry’**



## **'Calculative spaces: cities, market relations and the commercial vitalism of the advertising industry'**

### **Abstract**

Based on ethnographic work, this article examines the market research practices of the outdoor advertising industry in the UK and their commercial production of space. I focus on the role of calculation in the performance of market relations between a range of actors in the field and the use of marketing research's classificatory practices as a currency which enacts those relations. In many accounts of urban governance, city space is produced by various statistical and classificatory devices as calculable and hence governable. But with recent developments in commercial enterprises, the performative quality of market relations engenders *calculative space*, a nexus of people-in-space, commercial imperatives, and a calculative energy or orientation to calculation. This can be seen as a 'commercial vitalism' - an enlivening of market relations and of objects of commercial calculation - which firms aim to exploit by tapping into and channelling the energy it generates.

In framing his analysis of the production of space, Lefebvre remarks that scientific understandings of the material world have posited that energy, time and space must be neither conflated nor separated. But these understandings of materiality and physical energies that were developed in physics and astronomy, he argues, must not exclude 'social energies' by maintaining a distinction between "human" and physical fields of force' (1991: 14). In effect, 'space considered in isolation is an empty abstraction; likewise energy and time' (1991: 12). My concern in this paper is to explore this relationship of energy-time-space in relation to the city and the market practices of the UK outdoor advertising industry using ethnographic material generated from a recent project.<sup>1</sup> I argue that in this nexus of relationships, the energy that is held in a productive tension with time and space has a

---

<sup>1</sup> The research was supported by ESRC grant number RES 000221744. The project involved 28 in-depth interviews of 45-90 minutes with practitioners in a range of London-based media owning companies, media agencies, specialist poster agencies, trade associations, research companies and one client company. In addition, data such as briefs, research questionnaires, research project results and Powerpoint presentations was collected from these companies. The project also involved a two-week ethnography with one media owner including observation of directors' meetings, brainstorming and creative sessions, construction and presentations of pitches, visits to clients and media agencies, staff training, and a range of in-depth interviews with staff. Other parts of the project involved a case study of the visual impact of outdoor advertising in Manchester.



particular commercial character - or what I call a 'commercial vitalism' - that is closely linked to forms of calculation.

Many years ago Simmel noted the growing significance of calculation, particularly in relation to the metropolis, the seat of the money economy:

Modern mind [sic] has become more and more calculating. The calculative exactness of practical life which the money economy has brought about corresponds to the ideal of natural science: to transform the world into an arithmetic problem, to fix every part of the world by mathematical formulas. Only money economy has filled the days of so many people with weighing, calculating, with numerical determinations, with a reduction of qualitative values to quantitative ones .... the conditions of metropolitan life are at once cause and effect of this trait.

(Simmel, 1997: 177)

But more recently, calculation and measurement in relation to market research and space have been understood rather more narrowly, predominantly in terms of the practices of classifying groups of people or spaces using various geodemographic apparatuses. Such studies tend to emphasize the apparent reach, power and ambition of marketing and its associated knowledge practices. Goss, for instance, argues that the spatial marketing technique of geodemographics aims to order and manage diversity and is based on 'an instrumental rationality that desires to bring the processes of consumption further under the control of the regime of production' (1995: 172). In parallel, Gandy (1993: 2) sees the contemporary emphasis on various forms of data collection and ordering as a 'panoptic sort' which classifies people according to their economic value and functions as 'an extension of technical rationalization into the social realm of the consumer and political behavior'. For Elmer (2004: 49), the 'everyday data economy' is a powerful calculative formation in which geographical data are used to create maps simulating space-time relations which are then deployed to govern consumption. Many accounts emphasise the drive to classify, or what Lyon (2002: 3) calls the 'phenetic fix', and attribute great power and scope to such classificatory practices and technologies. Such analyses broadly follow Weber's (1967) understanding of bureaucracy and rationalisation in which the generation of multiform measurements, calculations and representations facilitates central control and order. Other accounts take a more Foucaultian emphasis on spatiality, focusing on how various mappings have *produced* cities, their early 'paper rationality' imagining cities as collective entities (Joyce, 2003: 55) and subjecting them to forms of governance (Osborne and Rose, 1999). In such understandings,



numbers and other 'inscription devices', actually constitute the domains they appear to represent; they render them representable in a docile form – a form amenable to the application of calculation and deliberation.

(Rose 1999: 198)

The stress on the role of classification, and particularly marketing data, in producing and maintaining a social order is in part shaped by the fact that most accounts analyse the archives and technologies of production (databases etc), and their products (maps, classificatory tables etc). It is perhaps unsurprising that readings of these objects of research might emphasise their omniscience and power, mirroring the claims generated by the technologies' producers. But if we look at the articulation and performance of such ideals, technologies and products in the actual practices of marketing research we can see a more complex picture in which the status of that data is more ambiguous. As John Law reminds us, there are no orders but *orderings* and these are 'more or less precarious accomplishments that may be overturned' (1994: 1-2). Such orderings and classificatory schemes tend to take the form of representations such as maps but, as Bowker and Star (1999) note, they can be material as well as symbolic and are embedded in a range of physical entities such as paper forms and software instructions encoded in silicon.

Yet such schemes, alongside a form of calculative drive, are also embedded in the commercial relationships between various actors in the field. Indeed, some accounts propose a more expansive view of calculation including processes of the classification (or 'qualification') of products and these practices' role in actively constituting markets (Callon, 1998). In my ethnographic work, there was ample evidence of commercial calculation in relation to the classification of people and products in the industry's market research practices. But what also emerged was a broader range of calculative actions – or 'commercial experiments' – that performed or enacted market relations between the various actors in the field. As the industry's product is, in effect, space – space on advertising billboards and panels – the performance of such practices is spatialised in ways that have yet to be fully examined in studies of the city. Recent accounts have sought to understand the constitution of cities by flows and rhythms of information (Castells, 2000), of capital (Harvey, 1989), of social relations (Lefebvre, 1991), of emotions and affect (Pile 2005), of ruination and memories (Edensor, 2005), of technologies (Thrift, 2005), and of images (Liggett, 2003), of networks of infrastructures (Graham and Marvin, 2001). But far less attention has been directed at the production of urban space by the practices of marketing.<sup>2</sup> It is this nexus of commercial energy–time–space that forms the focus of this paper.

---

<sup>2</sup> There have, of course, been many studies of the marketing of cities and particular urban spaces (e.g. Hall and Hubbard, 1998; Kearns and Philo, 1998).



After describing the nature of the outdoor advertising industry, the first section of this paper explores the industry's conceptualisation of urban space and its relation to the media owners' products (space on outdoor advertising sites). The second section examines the nature of the commercial experiments that enact the field of the outdoor advertising industry. The paper then goes on to explore the calculative energies or commercial vitalism evident in the market research practices of the industry. I conclude by arguing that these market research practices produce not only demographic classifications of people and spaces (or more precisely, taxonomies of 'people-and-space') and actively constitute a specific set of market relationships, but also perform the city as 'calculative space'.

### **The industry and the city**

A specialist sub-field of advertising, the outdoor advertising industry trades in producing and selling spaces on which to advertise outdoors (or 'out of home'). Media owners such as J.C.Decaux, Clearchannel, Viacom, Titan and Primesight construct and maintain poster sites including billboards by the side of roads, panels in pedestrian zones, and underground train and bus advertising sites. They also have contracts with local councils whereby they construct and maintain bus shelters or other amenities in return for the right to sell advertising space on them. They sell space to clients via the intermediaries of media agencies or specialist poster companies such as Posterscope and Kinetic which assess the client's needs and buy a suitable package of advertising space from the media owners. Market research companies are commissioned by media owners to produce data to use as a pitch to help them sell space or to assess a campaign's impact after it has been posted.<sup>3</sup>

Within this nexus of relationships calculation plays a central role. The generation and circulation of marketing data forms an agreed currency: media owners continually generate 'pitches' in Powerpoint presentation form containing various types of market research data which are presented, often in face-to-face meetings, to representatives of media agencies or specialist poster agencies (or, more rarely, directly to client firms). These pitches aim to persuade that outdoor advertising is an excellent promotional medium or that a media owner's particular portfolio of sites - perhaps the London Underground train system or large poster sites in petrol station forecourts - are best placed to target a particular audience. Media agencies take the Powerpoint presentations with their data-rich content and segment and reconstruct them, and then use them to pitch to clients who may wish to advertise. As I argue in later sections, the specific character of this market is produced and reproduced by the performances of commercial relationships between these actors. In doing so, they enact both

---

<sup>3</sup> Creative agencies produce the actual advertising content, but this element of the industry is not focus of this paper.



these markets relations and a set of conceptualisations of urban space that come to be materialised.

Odih and Knights (2000: 79) have argued that marketing knowledges have 'an unproblematic allegiance to positivist methods within an empiricist epistemology' and that,

It is axiomatic to this form of epistemology that 'time' and 'space' should be ascribed the characteristics of abstract, quantifiable, singular units .... 'Time' and 'space' are conceptualised as existing externally to the individual, in fixed rationally co-ordinated spheres.

(Odih and Knights, 2000: 79)

While this may be conceivable in the context of academic marketing discourses, this description jars with what I observed of the outdoor advertising industry's calculative knowledge practices. Despite the nature of their product – outdoor advertising sites that are almost exclusively situated in or on key approaches to cities – 'the city' as a conceptual zone does not exist in the industry's repertoire of understandings. As an industry spokesman explained to me, 'there is no interest in [the city as an] environment whatsoever. They're interested in the numbers of people. The fact is that the numbers of people [just happen to be] in places called cities'. This fact was illustrated time and again in my ethnographic study in which urban space was understood not as a fixed arrangement of specific locations but as spaces and times of *density* – densities of people which can be translated by market research's classificatory practices into 'target markets'. The busy urban road, the pedestrian shopping zone, the sides of buildings, buses moving along commuter routes, all figure in the industry's understandings and mapping techniques not as cartographically determinate sites in a city. They are framed and quantified as time–spaces through a standard industry taxonomy which includes the metrics of 'Opportunity to See' and 'Visibility Adjusted Contacts'. This taxonomy frames the classification of each advertising site according to the number of people who may see it (the density of visual contacts). The field of orientation used by the industry focuses on core themes: 'centrality' (the density of flows of people in and around a city centre will generate an intensity of 'hits'); positioning in relation to flows of people (busy commuter routes will deliver large numbers of hits); scale (size is understood to translate into 'impactful' advertising and generates a range of its own classifications such as 'super-sides' and 'mega-rears' in advertising on buses); contingent proximities (high street shops often advertise on the sides of buses which operate as mobile billboards travelling through commercial centres).

This is not a classic planners' view of city space as discrete sites located in determinate grids and networks. Space is understood only as the support surface or medium for moments of visual contact with potential consumers. Urban spaces take form or come to



exist as a commercial reality – only as flexible resources, that is, as quantifiable moments of encounter with potential consumers moving in that space. These are translated and sold as opportunities for conversations with them about products and services, or as chances for brands to inhabit people's lives by sharing their everyday space. In the more general arena of the production of marketing knowledges, this understanding could be characterised as 'people-and-spaces'. But it takes on a more specific character in the outdoor advertising industry as people's *visual attention* in space and time, or as I would frame it, 'attention-time-space'. One company which owns space on the London Underground promotes its sites as having excellent 'captive message time', effectively inhabiting with advertisements the 'dwell time' of people waiting on a tube platform. This is a particular manifestation of Lefebvre's energy-time-space which incorporates a commercial ideal of people's visual engagement with advertising texts. This engagement can be seen as a form of calculative energy. It is not the calculation of economists or even commercial experts, but it can be seen as a form of market calculation by potential consumers, as in Callon and Muneisa's (2005) expanded definition, in which judgments are made about the brand or product in terms of value and aesthetics, comparisons with other products are executed, and calculations performed about that product's potential place in that person's life.<sup>4</sup>

In these senses, 'the city' as understood by social scientists is clearly the context for the industry's activities. These activities contribute in turn to producing urban space by impacting upon the imagescapes of cities, marking routes of densities of people and modes of transport, and producing and circulating market research about such spaces. But the nature of 'the city', a question so intensely debated in academia, does not feature as a point of reference for the industry. Only when prompted will industry practitioners even mention the city and then only as a category that is not relevant to their commercial practices. As the Director of research at a major media owner explained,

I've got panels at 450 of their supermarkets and a third of the UK population visit them, and one of Tesco's stores is 100,000 sq ft, it's a quarter of a mile long and it's got an iPod department store within it. Is that a city?

So while much recent social theory has posited space as a product of social relations not a neutral, empty container, this has for many years been a practical truism of the outdoor advertising industry which understands space only and insofar as it relates to people inhabiting, moving in and acting upon it. Central to their understandings is the role of calculation. But space is not just where commercial calculation happens (the space of the

---

<sup>4</sup> The degree to which people remember or even register outdoor advertisements, brands and promotional messages is recognized within the industry as an area of ambiguity (see.....), but this does not detract from the potency of the commercial *ideal* of consumers' attentiveness to marketing messages.





organisation; the space of urban centres of the advertising industry) or the product of their marketing activities; it constitutes a productive nexus of energy–time–space, similar to Lefebvre's formation: 'though a *product* to be used, to be consumed, [social space] is also a *means of production*; networks of exchange and flows of raw materials and energy fashion space and are determined by it' (1991: 85, original emphasis). Space is understood and enacted in the industry as fluid, lived, contingent; what would be conventionally considered a city or urban space is understood and worked upon as a complex of energy–time–space. As I explore in the following section, this is enacted as 'commercial experiments.'

### **Commercial experiments**

In this section I draw on Thrift's understanding of performance as that which 'holds organizations together and pushes them on' and involves 'an ability to act convincingly into the situation that presents itself by taking whatever propensity for dynamism may be offered that is also a practical ethic of discovery and invention' (2006: 144). Within this broad framework of performances, I identify 'commercial experiments' in the advertising industry as a specific set of performances that are linked to calculation. Below I examine how practices of calculation – about the characteristics of potential consumers, about numbers of these consumers that can be reached, and about fruitful commercial relationships between actors in the field – are experimental in a twofold fashion. Firstly, for media owners they constitute a continual process of trial and error to identify what forms of classification or which promotional pitches will have traction with particular clients at particular times. Such experiments are thus oriented towards making efficacious market relationships. Such experiments are framed by the central issue of advertising's effects (although not, as we shall see, by a simple calculation of whether certain advertising will sell goods or services). Secondly, these performances are experimental in that they alter the elements involved in the calculative process as well as altering the process itself; they are alchemies of commercial spaces, times and energies. These are modes of production of space, in Lefebvre's terms, that enact complex relationships and produce some surprising results.

Market relationships between media owners, media agencies, research companies and client firms are continually performed and the maintenance of these relationships is carefully tended. For instance, despite having no immediate interest in a particular sales pitch, media owners will attend presentations by research companies which are promoting their new ideas, research data or targeting strategies in order to maintain the relationship for future collaborations. In commercial relationships deemed productive, this courtesy is of course reciprocated. In the performance of market relations in my study, the marketing data and creative pitches that are continually produced and circulated primarily function to structure and maintain particular commercial relationships. Constituting more than a mere competition





within a market, marketing is here a competition over the very structure of markets and the nature of market relations (see Slater, 2002a). This performance of commercial relationships and its calculative nature revealed itself to be subtle and complex, involving a currency of commercial knowledges in which classification and calculation (of potential consumers; of spaces they move in; of useful commercial relationships) formed an 'economy of qualities' (Callon, Méadel and Rabeharisoa, 2002: 202) or nexus of continually shifting orderings.

The commercial relationships in the advertising industry are framed by the thorny issue of cause and effect, or the impact of advertising on sales. This is one of the key factors that gives a specific character and orientation to the industry's commercial experiments. It is recognised both in the industry itself and in academic studies that advertising's impact on sales is a highly ambiguous area that is performed by claim and counter-claim in a highly competitive arena (Alvesson, 1994; Kover and Goldberg, 1995; Lury and Warde, 1997; Miller, 1997; Schudson, 1993, Tunstall, 1964). The majority of actors in my recent and previous studies (.....) believe that it is impossible to prove a direct, unequivocal causal link between advertising campaigns and sales of goods or services, citing the problems of distinguishing the effects of advertising from other promotional activities (e.g. pricing, packaging, promotional events) and extraneous factors including consumer trends and even the impact of the weather (for instance, on sales of summer clothing). This ambiguity is a central feature of the industry in which, as Cochoy argues, marketing's 'performances are hard to describe, complex to evaluate, and difficult to measure empirically' (1998: 217).

This appreciation of advertising's ambiguous impact is distributed among the various actors in the sector. Research companies specialising in both qualitative and quantitative research reported that producers of goods and services who commissioned them were themselves rather vague about advertising's effect on 'sales uplift'. This weak impact is mirrored in the industry's research findings of people's recall of specific advertisements. Research companies fairly consistently find in post-campaign research that the numbers of people who recall a client's advertising are generally small. For instance, in a bespoke post-campaign research project on plasma screen advertising for an internet company in London Underground train stations, a research company in my study found that only 4% of people questioned recalled any advertising at all in the tube station in which they were interviewed. And it is generally recognised that even accurate recall of a brand or advertising message does not straightforwardly translate into increased sales. The Research Director of an outdoor specialist firm noted that with regard to advertising's effects on sales, 'We're slightly in the dark with a lot of this'. To clarify the issue, the industry body POSTAR (which measures the number of viewers of outdoor advertising sites) employed econometrics, a modelling technique often used by clients to assess the impact of various factors on sales figures:

We actually hired a proper econometrician to try to look at the input of advertising, and unfortunately what we found was something we didn't really want to know which was



that the variance that you could directly attribute to the input of advertising wasn't large enough to be statistically relevant. Whoops!

(POSTAR spokesperson)

As this informant reported to me, following this inconvenient finding industry practitioners strategically altered the model so that they could attribute more impact to various forms of communication such as PR and advertising. In the industry, then, this ambiguity translates into a flexible and nuanced understanding of cause and effect and the validity of research data. Market research data and figures about advertising's direct impact on sales are viewed as less than accurate but this does not mean that they are seen as failing or invalid. With a particular focus on accountancy and its practices of producing calculable spaces, Peter Miller argues that 'economic calculation is a congenitally "failing" operation' in that the technologies of specific fields such as accountancy – and, we might add, marketing – 'often intersect poorly with the specifics of "the real"' (1994: 257). But this failure, he argues, does not constitute a problem for commerce: highlighting the inadequacies of one calculative model or technology facilitates the task of consultants in selling new ones to clients as there is a deeply rooted sense that commercial problems can be solved if only firms had the appropriate calculative tools.

For Miller, it appears that certain calculative models' 'failings' and their replacement with newer models merely serves to illustrate the structuring efficiency of the overarching framework of the market which seeks out and exploits gaps for innovation and hence opportunities to generate profit. But what other avenues for research are opened if, as in Burrows and Gane's (2006) study, we ask not if geodemographic techniques of research and classification are *accurate*, but what work they do in the industry. What if these calculative 'failings' identified by Miller are part not of a pre-set 'logic' of the market (as an abstract, overarching or framing entity), but of a range of commercial experiments that continually perform market relations? What commercial realities or virtualities do they enact? The issue of cause and effect in the industry is not, then, simply a 'problem' which constantly risks sliding into 'failure': flexible understandings of cause and effect, or the impact of advertising on sales, hold a central role in performing this set of market relations.

In these performances, this loose coupling of cause and effect produces a flexible relation to data and the calculative nature of commercial experiments. There is a continual production of classifications which are not understood to be referentially accurate but to be commercially useful. To give just one example, a 2005 survey was commissioned by a large media owner of advertising space in the London Underground and on buses. It aimed to explore the lifestyles of various social groups, their spending habits and their movement and travel patterns. This material was then used by the media owner to pitch itself to clients by promoting its capacity to understand and efficiently target potential consumers. The study was based on just over 1000 internet-based interviews of adults aged 16-55 living or working in



London. It identifies, and classifies, its respondents as 60% ABC1 and 40% C2DE and then more precisely as:

*'culture fashionistas'* (88% aged 16-34; 41% AB – cool jobs, high status; probably work in media related jobs; client facing business people who entertain on an expenses account; very well groomed with a keen interest in toiletries and cosmetics; very tech savvy – they are hi-fi and audio connoisseurs, with a good looking mobile phone in their pocket); *'Bonkies - big bonus, no kids'* (68% ABC1, 35% social grade AB - good jobs; square mile glamour couples with a double income; streetwise high flyers; they believe their choice of car says a lot about them; they embrace new technology and gadgetry, particularly computers and hi-fi & audio); *'Fair trade creatives'* (72% aged 16-34; 74% ABC1 - okay jobs; very politically aware – look to Europe in terms of a social model; strong consideration for their own emotions and feelings – and probably other people's too; more of an emphasis on comfort - less formal more leisure orientated dress; their fashion sense is probably more influenced by music – wearing the likes of Camper shoes, anti-fit jeans and Puma); *'Backbone of London'* (55% C1C2 - hardworking mid-market; traditional gender roles; know who they are and what's important – they stick to their principles and values; probably shop at major high street chains – Next and Debenhams); *'Goldie lookin tool kit'* [sic] (62% aged 16-34; 70% male; 70% C1C2DE; sport – both playing and watching is a key focus in their lives; their C1C2 SEG means they probably work in skilled manual trades; they have a keen interest in cars); *'Domestic goddesses'* (57% ABC1; 69% women; 49% married; 59% have children; shopping is both a necessity and a pleasure – particularly window shopping); *'The Royle Family'* (57% C2DE; 25% unemployed or homemaker; little or no disposable income; very 'stay-at-home' – they rarely travel out of their house or local area).

These classifications will change from project to project and will reflect the commercial imperatives of the moment, such as the targeting of a particular set of new clients, rather than accurately mirroring some external reality (in the manner of an 'academic study', as the industry understands such a distinction). But it is crucial that such data have commercial traction in that they must facilitate an efficient performance of commercial relationships. As a senior industry practitioner commented,

In advertising and marketing services people use data in the most amazing ways, and it will not necessarily stand up to scrutiny. You know, hey, maybe that's not what anyone in the marketing services industry wants... They want to be roughly right rather than precisely wrong.



To be 'roughly right' here translates as 'sufficiently valid', that is, capable of contributing to the performances of commercial relationships in ways which benefit all parties. We can see this dynamic operating clearly in the use of research data as a decision-support technology. The currency of market research data organises and stabilises the exchanges between media owners, media agencies and specialist agencies, and client companies in a range of complex ways including as a decision-support technology. I observed many instances of media owners creating pitches to present to clients on the basis of 'gut-feeling' or intuition – about what direction a brand should go; the most appropriate format for outdoor advertisements to complement television campaigns; selecting the most 'impactful' format for the campaign, such as bus advertising or sponsoring an event; finding a creative 'hook' to appeal to both clients and their consumers. Often it is only at this stage that practitioners will search various industry databases such as TGI or NVision<sup>5</sup> for specific quantitative or qualitative data to support their approach – 'nugget-hunting' as one practitioner at a research company called it, a tendency noted to be prevalent in marketing (see Hackley, 2001). As one senior industry practitioner describes, 'most of the decisions in advertising are made by intuition. So they want a bit of data to support their pre-formed prejudices'. This intuition is based on their commercial experience, ideas circulating in the trade press or in the practitioner accounts published by the 'great men' of advertising (e.g. Bullmore, 1991; Fletcher, 1999; Ogilvy, 1964, 1983), companies' archives of previous campaigns, practitioners' own experience as consumers, and a more general notion of 'creative insight'. The sourcing of data is thus an eclectic process with an emphasis on novelty, as the Research Director at a specialist media agency put it, 'We pull it from all sources.... I suppose it's like the magpie effect, really. We take anything that's shiny, anything that's shiny and new we'll take'. Indeed, media owners use a diverse range of sources such as standard marketing databases, Google, and online news sites to provide details to support their gut feeling or to post-rationalise a particular pitch.

This decision-support function also works at the level of the client. As a research company worker explained, practitioners at the client firm may require qualitative research on a particular advertising campaign which assesses not so much impact on sales as the general tone of the campaign: 'it's reassurance and testing that you've got it right'. And on all levels – within media owner firms, media agencies and brand managers at client firms – practitioners are oriented by personal interests, most notably their fear of losing their job due to inadequate performance. Research data can thus be used as an alibi for decisions made. The spokesperson of POSTAR explained that with the use of official industry figures, 'at the very least you won't lose your job because I'm going to provide you with statistical data that says, you know, "not me, guv – the figures said it was ok"'. Thus, figures are often used not to direct

---

<sup>5</sup> Within the industry, the databases are themselves seen as flawed. Research companies frequently commented on the poor quality of the questionnaires used to generate the data. But they are nevertheless used as currency because as one practitioner put it, 'they're the best we've got'.



but to support decisions on a range of levels, such as to post-rationalise a client pitch or to provide a statistical alibi for brand managers at client firms should a campaign appear not have the intended effect on sales.

This performance of specific market relationships, and the example of the use of data as a decision-support technology, is an explicit and accepted characteristic of the industry – indeed, one company providing market research software is called ‘Decisions Made Easy’. Research data is seen as a malleable resource and its reference to ‘the real world’ is understood as flexible and strategic. As the Research Director at a specialist agency noted, he often held back from investigating data too closely as clients do not really want you to ‘mess with’ their established understanding of outdoor advertising.<sup>6</sup> These modes of calculation, measurement and the presentation of data are thus best seen as commercial experiments. Their defining characteristic is not their ‘failure’ to capture the world, for instance, in the ambiguous impact of advertising on sales; the small numbers of people recalling ads; the sketchy marketing classifications of people or certain spaces or routes in those spaces. Certainly, this dynamic enables media owners, media agencies and research companies to offer new solutions to clients as Miller (1994) suggests. But these experiments or calculations do more than this. They continually act to constitute market relationships on a micro level: instead of failing, they are productive of a functional network of commercial relationships that cohere sufficiently across time to enable that company to make money.<sup>7</sup>

### **Commercial vitalism and creative insight**

But the commercial experiments of the industry do not operate solely on the level of decision-support or post-rationalisation – they have a strategic orientation to the future. In effect, they are experiments with time that are fundamentally spatialised and involve forms of calculative energy that I am calling commercial vitalism. Vitalism as a non-humanistic life force or energy has a long genealogy associated with the work of Bergson, Simmel and Deleuze amongst others (see Lash, 2006). Characterising understandings of a new vitalism, Fraser, Kember and Lury (2005) emphasize process and becoming over being, in which process is seen as a

---

<sup>6</sup> Why client companies should continue to advertise despite understanding advertising effects as at best indeterminate has been explored elsewhere (.....; Miller, 1997).

<sup>7</sup> A parallel understanding of this commercial dynamic could be produced by the concept of virtualism developed by Carrier and Miller (1998) and extended by Leyshon, French, Thrift, Crewe and Webb (2005). Rather than merely representing the world, economic abstractions (or theories) contribute to constituting the world. But, they argue, actors’ practices must also be considered as they act to constitute such abstractions.



radical relationality through which entities are constituted. The significance of relationality in thinking about (and through) process is that,

it acts as a 'lure for life', an enticement to move beyond the conflation of life with the (life) sciences, to conceive life as not confined to living organisms, but as movement, a radical becoming.

(Fraser, Kember and Lury, 2005: 3)

It is in this sense that the outdoor advertising industry produces and feeds off a commercial vitalism, or enlivening of their market practices and market relationships. Specifically, the industry enacts and exploits an energy–time–space that is made up of knowledges, practices, city space, commercial ideals about people's attention that are all oriented to the future. It comes to imagine and inhabit commercial futures as they are performed spatially through the vital processes and radical relationality of its own practices.

To ensure its on-going financial viability, the industry has to be adept at understanding the economic and cultural moment in order to respond to it. The advertising industry is thus part of a capitalism that is 'a means of crafting the moment' (Thrift, 1998: 164). Here, firms are as 'uncertain about the future as we all are because the future unfolds as a virtuality – it is continually creating temporary actualizations out of new questions – not a known quantity' (Thrift, 2005: 4). This 'moment' is multiform and indeterminate, and as various commentators have noted, is marked by complexity and non-linear manifestations of change (Bauman, 2000; Urry, 2000). In such a context the understandings of the temporality of consequences are altered such that,

the decision-making process becomes dominated by the expectation of unexpected side-effects. When this goes so far as to reverse the sequence of decision-making – when the expectation of unexpected consequences precedes the decision itself – then, in the language of economics, externalities have been internalized.... The result is that the more we know, the more our facts, decisions and objects become dominated by the unexpected consequences that are now an integral part of them.

(Beck, Bonss and Lau, 2003: 21)

In the outdoor advertising industry, the unexpected or indeterminate has long been a key factor that organises its internal market relations, particularly in the form of the ambiguous relationship of advertising to sales discussed above. But more than this, the data gathered in my study suggests that the industry reflexively aims to become part of these virtual futures by



asking new questions – to become part of the *performing* of those futures – by trying to harness the commercial energies or vitalism produced in that performance (which in turns shapes the performances of its own market relationships). The industry's practical rationality is not purely limited to short-term, knowable benefits, but has an orientation to the future and its yet unknown potential. Thus, the industry reflexively engages with the performative nature of capitalism and in doing so, the knowledge practices of the industry attempt to bring the future into the present. The commissioned research projects and practitioners' redeployment of marketing data in the industry's databases is a continual iteration of the multiple and contradictory nature of people, places and consumption: an ever-more refined classification of demographics; redefinitions of types or families of commodities and services; social trends in travel, work and leisure patterns; market share of advertising by television, the internet, the press. Projects and data are continually updated, recycled, redeployed, their usefulness defined not in terms of precision or referential accuracy but as technologies of crafting the moment, of organising knowledge and resources to most profitably inhabit that moment and be best placed to ask the next set of questions which perform temporary actualisations.

For the outdoor advertising industry, such experiments involve engaging the industry's actors in performing a certain set of commercial futures – on one level, media owners, media agencies and specialist agencies, research companies and client companies align their actions to ensure optimum performance and reward. These performances act to constitute a market or economic field. For instance the trade body, The Institute of Practitioners in Advertising (IPA), has recently attempted to produce a common currency of research data and consumer classifications, or 'single source survey and multi-channel planning system', called 'Touchpoints' based on a survey of 5000 adults in the UK. The subjects were given PDA diaries for 7 days to record their daily practices including a focus on lifestyle, media consumption, travel patterns, and time spent outdoors. This initiative was designed to formulate and stabilise the field of advertising relationships, but it constitutes a finely balanced dynamic in which the stabilisation of the field of the market is set in a productive tension with the drive for internal competition. Thus, there are continual attempts to destabilise or reinterpret market relations by companies which aim to achieve a 'point of difference' or competitive advantage by claiming new market research techniques, new technological advances in outdoor sites (e.g. Bluetooth enabled posters for consumer interaction), or a monopoly on product types such as a contract to sell advertising space on the Underground train system in London.<sup>8</sup> The Research Director of a specialist media agency describes this dynamic:

---

<sup>8</sup> On market stabilisation and destabilisation see Slater (2002b).





Proprietary thinking, proprietary tools, proprietary insight from industry systems that exist, that's important because it creates individuality and point of difference and it's what generates business and why you are more successful or less successful than your competitors.

The production of difference both as a taxonomic currency of potential consumers and spaces and as competitive leverage is central to the market. But while Lyon's (2002: 3) phrase, the 'phenetic fix', elegantly captures this drive to classify and materialise those classifications as commercial realities, it fails to encompass the way in which the industry orients itself toward commercial futures in a manner which exceeds often loosely conceived ideas of 'innovation'. Indeed, for many accounts of market research's classificatory practices such as Elmer's (2004: 134), 'to profile is to attempt to account for the unknown'. But capturing the unknown is only part of the story. Based on the constant production of market research data and commercial mappings, these performances of market relations can be understood as part of the diagrammatic or abstract machine identified by Deleuze and Guattari (2004). This machine 'does not function to represent, even something real, but rather constructs a real that is yet to come, a new type of reality' (2004: 157). Not merely attempts to exploit the present, they are open-ended reflexive attempts to be part of performing the horizon of commercial reality that acts to bring market relations into being.

This sense was articulated by practitioners most often as 'creative insight', a galvanising concept that organised their everyday practices. Whilst creativity is a staple concept in the advertising industry more generally, it has less traction amongst media owners, that is, the group which formed the focus of my study. Trading space and market research on that space constitutes the core of their activities, and while it is true that intensified competition in the industry has recently forced media owners to engage in more 'creative' work (e.g. mocking up posters to sell the concept of outdoor advertising to specific clients), creativity is generally seen as the remit of 'creative agencies' (those that generate the textual content of advertisements). In the media owners' sector of the industry, 'creative insight' is used in a wide sense to indicate forms of knowing that are flexible, not rooted in conventional interpretations of data, and are not strictly referential – they can be seen as 'vital knowledges' in which 'creativity' is the vital energy that drives them.

This was most clearly evident in my study in the prevalence of brainstorming sessions. One particular session brainstormed for a pitch for a large contract for a soft drink and was oriented towards capturing the intangible in two keys ways. Firstly, the session aimed to develop understandings of the product's 'brand personality' ('radical', 'extreme', 'challenging', 'fun') by throwing around key words and associations and drawing on advertising folk knowledges, their own experiences, and previous advertising campaigns for the product. The lack of detail or data they received in the brief from the company did not restrict these calculations. Secondly, it attempted to establish competitive advantage by



concluding that the product's brand personality did not tally with the target market for the product and by tying their particular portfolio of advertising sites to a potential campaign (e.g. special campaigns in parks). These calculations were framed by the standard industry practice of competitively pitching for contracts. In effect, the dynamism of the market relationships between media owners, media agencies and clients is performative. It animates the search for, and circulation of, forms of knowledges – vital knowledges – which in turn animate the field and in their performative action enact commercial futures.

Of course, on a mundane level companies are strategic about the futures they release. I observed how in commissioning research from research companies - for instance, on a particular poster campaign's impact on viewers - media owners were very careful about producing the frame of reference or the terms of the questionnaire used. As one media owner noted, they know the answers they want to get and are very circumspect about the design of the study as any negative responses generated have to be declared. But in more general terms, companies are very open to more diffuse commercial experiments as they are seen as a highly productive means of inhabiting the moment and performing futures. On one level, this involves predicting trends in the commercial field, for example, up or downturns in clients' overall advertising spend, or potential changes to planning laws which may impact upon companies' ability to secure new sites for advertising panels. But more radically, the industry is open to attempting to capture the vitalism of the field through an open and flexible approach to producing and processing commercial knowledges. The spokesperson of the Institute for Practitioners in Advertising, a key trade association, describes the tension in the industry between the impulse to measure and classify, and the more diffuse benefits of maintaining an open stance to the unknown:

There's a tremendous desire to measure everything and for everything to be accountable because it's only by knowing something that you can accurately develop it - [that] would be the argument. The problem is that the more you record, the more you are beholden to what you record and it's almost always [a] proxy of reality [as] it's very, very difficult to really, truly model the world we live in... I mean, it's fantastically complex so attempting to extract a handful of strands and then saying that, 'there you go, that's why that happened' is incredibly difficult... And if all your decisions are based on what you can measure, there is still a world that you can't measure that has potential value and if you approach it cleverly... you can derive far more benefit from it than you could have imagined just because you have difficulty with measuring it.

This encapsulates the perception that I observed many times – that formal quantitative calculation and measurement can be unduly restrictive. On one level, this corresponds to Callon and Muniesa's (2005) observation that there is no longer a strict division in calculative practices between (qualitative) judgement and quantitative (or numeric) calculation. But the



practices I observed suggest something more – an awareness among practitioners that the referentiality of their classifications and calculation to ‘the real world’ is mutable and flexible, and that the commercial energy or vitalism which is performed in these market practices and relationships can be tapped for their benefit.

Massey argues that space is ‘a simultaneity of stories-so-far’ (2005: 9), but times and spaces are here folded together with an eye to the future and we also need to understand the product of this folding as a temporal and spatial simultaneity of *stories-to-come*. Some of these stories are: the openness of people’s engagement or disengagement with advertising or with the visual field of cities in general; new ways of competitively inhabiting positions in the nexus of commercial relationships such as offering new services to clients that dispense with the need for media agencies as intermediaries; shifting trends such as ‘green’ consumption; and new questions whose very form has yet to be imagined. One unforeseen consequence of the intensification of the circulation of marketing data in the industry’s practices is the production of the city as calculative space.

### **Calculative spaces**

Using Lefebvre’s (1991) conceptualisation of energy–time–space, I have argued that the outdoor advertising industry’s practices constitute a form of commercial vitalism that animates the specific market relations of the field and is in turn animated by them. Within the nexus of energy, time and space, the performance of marketing knowledges and practices effect a temporary holding together of urban space and people in that space. The loose coupling of advertising and effects on sales, in parallel with flexibly referential understandings of space and people, orients the advertising industry and allows the play of creative insight. Space and market relations are, in effect, in a performative relationship. Clearly, this is not an abstract, Cartesian mapping of space: the industry understands people and space as articulated in a self-constitutive relationship which is dynamic, unpredictable and overlaid with multiple realities. This is a practical commercial understanding which has parallels with recent academic understandings of urban space as ‘an enormous confluence of relationships without fixed sites’ (Amin and Thrift, 2002: 123). In effect, the calculative and mapping practices of the industry are part of a broader diagrammatic or abstract machine which functions to create a new type of reality. One feature of this new reality is the production of calculative space.

Most accounts of calculation and space frame their analysis in terms of governance: in order to render them manageable, spaces are crafted by various representational strategies to be calculable, thus delivering them up to technologies of governance (e.g. Miller, 1994; Osborne and Rose, 1999). In parallel, some accounts suggest that such technologies produce calculative subjects (Rose, 1999). In my study, practitioners were clearly reflexive



agents who practise various forms of calculation and measurement, but their status as calculative subjects is rather dimmed by a fact I continually encountered – almost none of the practitioners fully understood how the databases, metrics or research systems worked, thus restricting their manipulation of them (although they could produce a limited range of outputs through various conventions of use). This level of ignorance was voiced by the spokesperson of the IPA who said of econometrics, 'it's a bit of a dark art and it's something I have only a vague understanding of'.

Thus, the calculative energy clearly present in the industry does not reside solely with the practitioners. As Callon and Muniesa (2005) have argued, economic calculation is distributed among human actors and material devices. Here, this includes various marketing databases (standard marketing sources such as TGI as well as more general sources such as that of the Office for National Statistics), and paper-based distributions (client briefs, flipchart notes from brainstorming sessions, creative pitches). But market relationships between media owners, media agencies, research companies and clients also constitute a calculative nexus. As I have outlined, the practice and circulation associated with research data performs market relationships and here produces them as a calculative formation – calculation of market position, financial gain and potential consumers is central to this formation. But more than this, an orientation toward calculation and facilitation of calculative functions becomes fundamentally embedded in these market relations through the recursive nature of such performances.

The confluence of multiple commercial factors creates a new support surface for market relations – a calculative space. It is clear that the outdoor advertising industry has a range of appreciable effects on urban space. Advertising on panels, billboards, buses and taxis etc all directly impact on the making of spaces, not merely by adding their semantic content to the rich textual mix of city space, but in helping shape the affective geographies of urban space, introducing new visual technologies into public space (moving image billboards, interactive bus shelters etc), constantly reiterating the *commercial* nature of supposedly public urban space in a hyper-visible way, and financing urban infrastructures such as the London Underground through the large contract fee required from the media owner of tube advertising sites (Viacom Outdoor).

But alongside these more immediately evident features is the production of the city as calculative space. As space is a product of social relations, these practices or commercial experiments go towards forming the nature and potential of that space. The calculative nature of such space is performed through a recursive, shifting relationship between the various elements I have outlined above: the use of intuition or gut feeling in producing creative insight; the strategic deployment of various market research techniques and technologies; the production and reformation of various data through the circulation of powerpoint presentations; the loose coupling of commercial cause and effect allowing flexible new modes of understanding data and commercial relationships; and a 'light touch' with regard to data in



order to preserve an orientation to the future that unleashes its unforeseen potential. These factors are combined with a core understanding of space as a pliable resource and of its fluid relationship with people, and these understandings are folded inextricably into the production of market relationships.

This produces a calculative space which is an admixture of space, people, attention, calculation techniques, calculation technologies, and an orientation towards the unknown potential of the creative insight. For the industry, it makes no sense to try to separate these elements: they constitute a set of experiments that produces a commercial reality which can be channelled for profit. One result is that a calculative quality, characteristic or orientation comes to be interwoven into the creative process of producing the city as a fluid, flexible entity. It is an understanding of space as 'folded and animate'; one result of a shift to a world of 'qualculation' characterised by continual calculation facilitated by machines which constitutes a means of 'making qualitative judgments and working with ambiguity' (Thrift, 2004: 584). This should be understood as *process* and radical relationality: vital forces of commercial calculation, times, and spaces are continually disaggregated and reconstituted. We can only begin to speculate on the impact of this. The commercial vitalism of marketing practices may animate the city in new ways. As the city comes alive through commercial experiments this vital process may afford alternative ways of knowing that exceed the conventional modes of reading the city through meanings, messages, signs and symbols. It is less that the city is *speaking* in a new language of calculation and commercial vitalism than *processing* new understandings of itself. The calculative energy of such spaces allows for commercial innovations in market performances such as alternative understanding generated by possible connections between standard marketing metrics and creative insight. Indeed, if government is 'animated by a spatial diagram of its objects, its problems and its means of action' as Osborne and Rose (1999: 738) suggest, calculative spaces will engender shifting modes of governance or perhaps fresh ways of imagining governance. But this produces not a homogenised city space subjected to and governed by commercial knowledge-producing activities, but multiple, co-existing time-spaces of the urban which are animated by a calculative energy.

## References

Alvesson M, 1994, "Talking in organizations: managing identity and impressions in an advertising agency" *Organization Studies* **15**(4) 535–563

Amin A, Thrift N, 2002 *Cities: Reimagining the Urban* (Polity Press, Cambridge)



Bauman Z, 2000 *Liquid Modernity* (Polity Press, Cambridge)

Beck U, Bonss W, Lau C, 2003, "The theory of reflexive modernization: problematic, hypotheses and research programme" *Theory, Culture and Society* **20**(2) 1-33

Bowker G C, Star S L, 1999 *Sorting Things Out: Classification and its Consequences* (MIT Press, London and Cambridge, MA)

Bullmore J, 1991 *Behind the Scenes in Advertising* (NTC Publications Ltd, Henley-on-Thames)

Burrows R, Gane, N, 2006, "Geodemographics, software and class" *Sociology* **40**(5) 793-812

Callon M, Ed, 1998 *The Laws of the Markets* (Blackwell, Oxford)

Callon M, Méadel C, Rabeharisoa V, 2002, "The economy of qualities" *Economy and Society* **31**(2) 194-217

Callon M, Muniesa, F, 2005, "Economic markets as calculative devices" *Organization Studies* **26**(8) 1229-1250

Carrier J, Miller, D, (Eds), 1998 *Virtualism: A New Political Economy* (Berg, Oxford)

Castells M, 2000 *The Information Age: Economy, Society and Culture, Volume 1: The Rise of the Network Society* (Blackwell, Oxford and Malden, MA)

Cochoy F, 1998, "Another discipline for the market economy: marketing as a performative knowledge and know-how for capitalism", in *The Laws of the Markets* Ed. M Callon (Blackwell, Oxford) pp 194-221



Deleuze G, Guattari, F , 2004 *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. B Massumi (Continuum, London and New York)

Edensor T, 2005 *Industrial Ruins: Space, Aesthetics and Materiality* (Berg, Oxford and New York)

Elmer G, 2004 *Profiling Machines: Mapping the Personal Information Economy* (MIT Press, London and Cambridge, MA)

Fletcher W, 1999 *Advertising Advertising* (Profile Books, London)

Fraser M, Kember S, Lury C, 2005, "Inventive life: approaches to the new vitalism" *Theory, Culture and Society* **22**(1) 1-14

Gandy O H, 1993 *The Panoptic Sort: A Political Economy of Personal Information* (Westview Press, Boulder and Oxford)

Goss J, 1995, "'We know who you are and where you live': the instrumental rationality of geodemographic systems" *Economic Geography* **71**(2) 171-198

Graham S, Marvin, S, 2001 *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition* (Routledge, London and New York)

Hackley C, 2001 *Marketing and Social Construction: Exploring the Rhetorics of Managed Consumption* (Routledge, London and New York)

Hall T, Hubbard, P, Eds, 1998 *The Entrepreneurial City: Geographies of Politics, Regime and Representation* (John Wiley and Sons, Chichester and New York)

Harvey D, 1989, "From managerialism to entrepreneurialism: the transformation in urban governance in late capitalism" *Geografiska Annaler* **71B**, 3-17





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

Kearns G, Philo, C, Eds, 1993 *Selling Places: The City as Cultural Capital, Past and Present* (Pergamon Press, Oxford)

Kover A J, Goldberg S M, 1995, "The games copywriters play: conflict, quasi-control, a new proposal" *Journal of Advertising Research* **35**(4) 52-62

Lash S, 2006, "Life (vitalism)" *Theory, Culture and Society* **23**(2-3) 323-349

Law J, 1994 *Organizing Modernity* (Blackwell, Oxford)

Lefebvre H, 1991 *The Production of Space*, trans. D Nicholson-Smith (Blackwell, Oxford)

Leyshon A, French S, Thrift N, Crewe L, Webb, P, 2005, "Accounting for e-commerce: abstractions, virtualism and the cultural circuit of capitalism" *Economy and Society* **34**(3) 428-450

Liggett H, 2003 *Urban Encounters* (University of Minnesota Press, Minneapolis and London)

Lury C, Warde, A, 1997, "Investments in the imaginary consumer: conjectures regarding power, knowledge and advertising" in *Buy This Book: Studies in Advertising and Consumption* Eds M Nava,

A Blake, I MacRury, B Richards (Routledge, London and New York) pp 87-102

Lyon D, 2002, "Surveillance studies: understanding visibility, mobility and the phenetic fix" *Surveillance and Society* **1**(1) 1-7

Massey D, 2005 *For Space* (Sage, London)



Miller D, 1997 *Capitalism: An Ethnographic Approach* (Berg, Oxford)

Miller P, 1994, "Accounting and objectivity: the invention of calculating selves and calculable spaces" in *Rethinking Objectivity* Ed. A Megill (Duke University Press, Durham and London) pp 239-264

Odih P, Kights D, 2000, "Just in time? The prevalence of representational time and space to marketing discourses of consumer buyer behaviour", in *Knowledge\_Space\_Economy* Eds. J R Bryson, P W Daniels, N Henry, J Pollard (Routledge, London and New York) pp 79-99

Ogilvy D, 1964 *Confessions of an Advertising Man* (Longmans, Green and Co. Ltd., London)

Ogilvy D, 1983 *Ogilvy on Advertising* (Pan Books, London)

Osborne T, Rose, N, 1999, "Governing cities: notes on the spatialisation of virtue"  
*Environment and Planning D: Society and Space* **17**, 737-760

Pile S, 2005 *Real Cities* (Sage, London)

Rose N, 1999 *Powers of Freedom: Reframing Political Thought* (Cambridge University Press, Cambridge)

Schudson M, 1993 *Advertising, the Uneasy Persuasion: Its Dubious Impact on American Society* (Routledge, London)

Slater D, 2002a, "From calculation to alienation: disentangling economic abstractions"  
*Economy and Society* **31**(2) 234-249

Slater D, 2002b, "Capturing markets from the economists", in *Cultural Economy* Eds. P Du Gay, M Pryke (Sage, London) pp 59-77



Thrift N, 1998, "Virtual capitalism: the globalisation of reflexive business knowledge", in *Virtualism: A New Political Economy* Eds. J Carrier, D Miller (Berg, Oxford) pp 161-186

Thrift N, 2004, "Movement-space: the changing domain of thinking resulting from the development of new kinds of spatial awareness" *Economy and Society* **33**(4) 582-604

Thrift N, 2005 *Knowing Capitalism* (Sage, London)

Thrift N, 2006, "Space" *Theory, Culture and Society* **23**(2-3) 139-155

Tunstall J, 1964 *The Advertising Man in London Advertising Agencies* (Chapman and Hall Ltd., London)

Weber M, 1967 *From Max Weber: Essays in Sociology*, trans. and edited by H H Gerth, C Wright Mills (Routledge and Kegan Paul, London)

Urry J, 2000 *Sociology Beyond Societies: Mobilities for the Twenty-First Century* (Routledge, London and New York)