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# Beyond ‘women and transport’: towards new geographies of gender and daily mobility

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**Abstract:** Over the last two decades, a feminist critique of gender-blind transportation research and planning has generated a spate of research into ‘women and transport’. This article critically reviews this literature, and argues that it has come to focus on a relatively limited range of research problems (notably journey-to-work travel) at the expense of other relevant issues. An alternative approach is suggested which redefines the topic as ‘gender and daily mobility’ and incorporates it within a larger theoretical project investigating social and cultural geographies of mobility. Some areas of scholarship associated with the ‘cultural turn’ are explored to illustrate the potential for new approaches. The article then argues that future research on the topic must be based on a more systematic treatment of gender as a theoretical concept. A framework of analysis is outlined which identifies aspects of gender as a social category and symbolic code, and links it to aspects of daily mobility. The article outlines potential research questions identified through this analysis, and draws attention to a wide range of literature which may be brought to bear on the redefined topic area.

**Key words:** access, gender, journey to work, mobility, transport.

## I Introduction

Twenty years ago, feminist geographers and urban planners began publishing critiques of the gender-blind approach to transportation research and planning, thus marking out the direction for a new field of research. Attention to transport offered a way to link discussions of gender relations, transport systems, public and private spaces, accessibility, and the spatial and temporal organization of human activity. A spate of empirical research followed, substantially increasing our understanding of gender differences in travel behaviour in first-world countries. Yet the work by geographers on gender and

transport remains confined to a limited number of research topics and theoretical approaches. The field is still largely defined in terms of travel behaviour and policy, and one debate in particular – explanation of women's typically shorter work-trips – has overshadowed all others. Opportunities presented by the 'cultural turn' in the social sciences, and by developments in social theory and feminist geography, have yet to be taken up. The purpose of this article is to review critically the development of this field of research, and to suggest directions for the future.

The body of the article is organized into three parts. First, I review the literature on gender and transport, and show how it has become focused on a relatively limited range of themes. I suggest that the conventional definition of the subject area with reference to transport geography and urban transportation planning has stimulated certain kinds of research, but has closed off the possibility for other kinds, and so has contributed to a certain theoretical stagnation. Secondly, I suggest an alternative approach that involves reframing issues of gender and transport as part of a larger project, namely, social and cultural geographies of mobility. I discuss notions of mobility in recent social theory, and identify some areas of scholarship associated with the cultural turn which might contribute to the study of transport and mobility issues. Thirdly, I suggest that future research must be based on a more systematic treatment of gender as a theoretical concept. A framework of analysis is outlined which links a conceptual understanding of gender with research on transport-related themes from a range of literature both within and outside geography.

A few words on terminology and scope are necessary here. The early work in this subject area (to be discussed below) revolved around the issues of *women's* travel needs and a stated or implicit definition of the topic as 'women and transport'. Over time, feminist research moved from a concern with uncovering women's experience, to a concern with understanding gender as a relational category with implications for both men and women. This shift towards the term 'gender' is reflected in terminology in Anglophone feminism and feminist geography (see, for example, the titles of these recent important books: Little, 1994; Massey, 1994; Hanson and Pratt, 1995). The other term describing the subject area, i.e., 'transport', has been more stable. It clearly acknowledges origins in the subdisciplines of transport geography and transportation planning. In the literature surveyed in this article, 'transport' refers to the movement of people (not goods); indicates the short-term, repetitive, movement flows of people designated as 'circulation' rather than 'migration' (Zelinsky, 1971); and usually implicitly refers to movement flows within an urban setting. For the sake of simplicity, in this article the composite term 'gender and transport' will refer to the relatively coherent body of work written in English over the last two decades. Despite the inclusive terminology, it is worth noting that most of this has been concerned with issues in the contemporary urban western world, especially the use of the private car. The gender and transport literature has had relatively little to say about rural areas and about third-world countries, and the published research on the first world neglects some places (such as parts of Europe).

Since one of the arguments of this article is that the topic of gender and transport needs to be situated within a wider intellectual tradition than that designated by transport geography, a change in terminology is called for. I propose that the term *transport* be replaced by an alternative term (namely, *daily mobility*) to signal the new framing of the topic within social and cultural geographies of mobility.

## II Rejecting the neuter commuter

The study of gender and transport grew at the intersection of transportation planning, time-geography and feminism. In the late 1960s, the urban transport planning process developed in the USA was standardized and institutionalized (Dimitriou, 1992). As statutory requirements for transport plans were introduced worldwide, consultancy firms flourished, and models to predict travel demand were widely applied. By the 1970s, some transportation planners were beginning to recognize the mobility needs of population subgroups (such as older people) in work that would later lead to the concept of 'transport-disadvantaged' groups (Hillman *et al.*, 1973; Falcocchio and Cantilli, 1974).

Among human geographers (including transport geographers), Hägerstrand's time-geography inspired increased attention to issues of mobility and accessibility in urban space (Palm and Pred, 1974; Miller, 1982; see Rose, 1993, for a critical review). Soon after, feminist scholars embarked on a strategy of pointing to the missing 'half of the human' in human geography (Tivers, 1978). This set the context for a few critics to question the assumptions underlying conventional transport planning and research (such as the assumption that households always pool resources) which obscured the implications of gender differences. Path-breaking articles by Sandra Rosenbloom (1978) and Genevieve Giuliano (1979) laid the groundwork for a body of research which rejected the 'neuter commuter' assumption, and began to distinguish women's patterns of mobility in urban space from those of men.

Researchers using aggregate travel data and travel diaries for a number of developed countries reported consistent and significant gender differences in trip purpose, trip distance, transport mode and other aspects of travel behaviour (Erickson, 1977; Andrews, 1978; Hanson and Hanson, 1981; Howe and O'Connor, 1982; Fagnani, 1983; Fox, 1983; Pas, 1984). Explanations drew on the burgeoning feminist literature, particularly the concept of sex roles. In turn, the findings of gender differences in transport contributed to a larger theoretical project in feminist geography: the critique of urban land-use structure in contemporary capitalism, of the spatial separation of production and reproduction, and of the cultural dichotomy of public and private space (Markusen, 1980; Harman, 1983; Matrix, 1984; Little *et al.*, 1988; England, 1991). The descriptions of women's experiences were a useful corrective to earlier urban studies, where, as Linda McDowell (1993a: 166) points out, 'The gangs, the urban crowds, the flaneurs, the political activists, even the stolid figures of urban commuters were never encumbered by a baby, a stroller and the week's shopping'. At first, researchers paid quite a lot of attention to the constraints on housewives and mothers of young children, especially in suburban locations (Gavron, 1966; Cichoki, 1980; Forer and Kivell, 1981; Lopata, 1981; Tivers, 1985). Subsequently, however, two main areas of research emerged: the constraints resulting from fear of male sexual violence, and the characteristics of women's travel to and from employment. These parallel streams drew on two areas of Anglophone feminist scholarship. On the one hand, a broadly defined radical feminist tradition foregrounded sexuality, identified rape as a central mechanism of oppression and used a methodological approach based on women's experiences. On the other hand, a feminist tradition drawing on Marxism foregrounded work (both paid and domestic), identified social relations in the household and workplace as central mechanisms of oppression, and used a

methodological approach based on analysis, often using quantitative data.

Research into the geography of women's fear revealed pervasive awareness of vulnerability to sexual assault, and an array of self-protection strategies and behavioural constraints such as travelling with an escort and avoiding certain places at certain times (Valentine, 1989; Pain, 1991). These self-imposed precautionary measures limit mobility significantly. They also contribute to the continued under-representation of women in certain settings, thus reinforcing the sense of fear and risk for women who do find themselves in those settings. This strand of research was closely related to the activist anti-rape agenda of the women's movement, as expressed in 'Take Back the Night' marches. In time, it also contributed to the establishment of policy initiatives such as Safer Cities programmes involving safety audits and environmental design to improve safety (Trench *et al.*, 1992).

The 'women's fear' strand of research proceeded somewhat separately from the 'journey-to-work' research. The latter grew out of the observation that women typically travelled shorter distances to employment sites than men; the challenge was to explain why. This neat intellectual problem attracted a number of researchers in the USA, generating debate over the relative importance of income, domestic responsibilities (and the separate effects of marriage, spousal employment and the presence of children), access to transport and the spatial expression of labour market segmentation (Madden and White, 1980; Madden, 1981; Fox, 1983; Hanson and Johnston, 1985; Singell and Lillydahl, 1986; Rutherford and Wekerle, 1988; Gordon *et al.*, 1989; Johnston-Anumonwo, 1992). Most studies involved quantitative analysis of large-scale, aggregate databases which allowed for the effects of different variables to be examined separately. But this also meant that complex concepts (such as domestic responsibilities) were reduced to easily measured indicators (such as the presence of children). Studies from other countries, such as Australia (Howe and O'Connor, 1982), Israel (Brooker-Gross and Maraffa, 1985) and France (Fagnani, 1983), showed that the shorter female work-trip was common, but only in recent years have USA researchers shown that the patterns do not necessarily hold true for black and Latina commuters, who face racially segmented labour and housing markets (McLafferty and Preston, 1991).

The journey-to-work strand of research made a major contribution to urban geography. It produced a substantial body of highly consistent and well supported evidence showing that women (especially married women) displayed different work-trip patterns relative to men. The work on this topic is a textbook example of social science, showing how knowledge can be built up by debate and by formulating and testing hypotheses. The strand also led directly into one of the most productive areas of recent feminist urban research: the investigation of gendered spatial labour markets (Nelson, 1986; Hanson and Pratt, 1988; England, 1993). One significant research project (Hanson and Pratt, 1995) traces its lineage back to early studies on this topic (e.g., Hanson and Hanson, 1978). Yet, as I will argue below, the very success of this line of inquiry has affected the development of the topic of gender and transport as a whole.

Research interest in the work-trip overshadowed other mobility issues, such as nonwork-trips (see Hillman and Whalley, 1977, on recreation), trips by nonemployed people such as older women (Rosenbloom, 1993) and potential trips that are *not* made. In part, the emphasis on the work-trip was a response to social change, as economic restructuring and a growing service sector generated new working conditions and

labour demands for women in developed countries. But interest in the work-trip also derives in part from its power as a metaphor, both for women's lives and for feminist geography. The work-trip is the single human activity that most clearly bridges the symbolic and spatial distinction between public and private which is a feature of western urbanism. It is the actual and metaphoric link between the spheres and spaces of production and reproduction, work and home. Serious attention to the work-trip unsettles the neat binary of separate spheres, and forces us to recognize the messy interwoven reality of daily life. The topic of the work-trip has thus served as a way of dissolving conceptual boundaries. The focus on employed women challenges the crude association of 'women = home/men = paid work', and reminds us that men's lives also include a domestic component. Also, the focus challenges the barrier between the theoretical literature on labour markets and housing markets; as Pratt and Hanson (1991: 57) note: 'The prime link between housing markets and labour markets in both residential choice and job search models remains the journey to work as some measure of home-work time/distance/cost'. But while the focus on the work-trip served to destabilize and dissolve some conceptual boundaries in human geography, it also tended to fix the conceptual boundary around the field of gender and transport and hence to marginalize some issues.

The two decades of scholarship on gender and transport generated a substantial body of research organized around some clearly defined theoretical questions (notably those to do with women's journey to work). Yet an examination of attempts to integrate and summarize the field as a whole shows that the potential of a feminist geography of gender and transport has hardly been developed, especially when compared to the outpouring of other research into gender. The evidence for this claim includes both the paucity of *general* literature on gender and transport, and the rather tentative and limited use of feminist theory in the few reviews which do attempt to describe the field.

A survey of the general literature reveals apparently only one book specifically devoted to gender and transport (a collection edited by Grieco *et al.*, 1989), and this, too, has a focus on employment. Some important general works are in the form of conference proceedings or planning documents. These have limited circulation and are highly orientated towards policy recommendations (for example, the conference articles collected in Rosenbloom, 1980b; GLC Women's Committee, 1985). In short, while much attention has gone into specific topics, the overall conceptualization of the field has been largely neglected. This theoretical underdevelopment has been remarked upon in passing by at least two authors (Beuret, 1991; Little, 1994).

Several authors do attempt to summarize and review the subject area as a whole in an article or chapter, typically written from a background in planning and policy, or for a readership with those concerns (Rosenbloom, 1980b; Giuliano, 1983; Pickup, 1984; 1988; Hamilton and Jenkins, 1989; Beuret, 1991; Lang, 1992; Levy, 1992; Little, 1994). Attempts to explain gendered variations in transport commonly begin with descriptions of travel behaviour. A straightforward description of gender differences in travel patterns (trip distance, modal choice, trip purpose, public transport use, etc.) is presented, and these differences are then explained with reference to a variety of concepts from the gender literature, such as household responsibilities, position in labour market, socialization, income, and vulnerability to male violence (e.g., Beuret, 1991; Lang, 1992; Little, 1994). While this approach is simple and informative, it restricts the subject area to the realm of behavioural differences. Although critical of conven-

tional transport planning, it is firmly rooted in that tradition, drawing on concepts from the gender literature in an *ad hoc* manner.

In an alternative approach (typified by the frequently cited work of Pickup) a theoretical discussion of gender is presented first, which is then used to explain transport patterns. Pickup (1984; 1988) argues that women's gender role is the primary reason for their low travel mobility, and he identifies three components of the role: family role-playing, gender-related tasks and the conditions under which women travel. While this approach is more consistent with work in feminist geography than the approach described above, the use of the concept of gender role is somewhat problematic. Although Pickup does direct attention to unequal access to household resources (such as a car), the concept of role-playing tends to imply equivalence, consensus and choice rather than power and coercion. As such, it has been heavily criticized by feminist theorists in other contexts. Pickup's framework also downplays constraints on mobility which are located in gender relations outside the home, such as women's lower rates of pay and lower access to company cars.

Other ways of theorizing gender and transport are rare. Hamilton and Jenkins (1989) offer suggestions for a more inclusive framework for understanding women's transport needs, which includes attention to socialization history and body size, as well as domestic role, and labour market position. Although Little (1994) includes an early chapter on theorizing gender, her discussion of transport does not develop this. Why has the topic of gender and transport failed to develop to the extent that similar subject areas such as gender and health care (e.g., Muller, 1990; Miles, 1991) have done? I would argue that the reasons lie in trends in both transport geography and feminist geography.

Transport geography has long been rather isolated from broader trends in human geography (Daniels and Warnes, 1980) although it has close links with the professional practice disciplines of urban planning and civil engineering. For example, in a comprehensive review, Taaffe and Gauthier (1994) note the paucity of published work using a Marxist analysis, during a period when Marxist theory was stimulating a great deal of research in related fields such as housing. Although they identify a few studies from a humanistic/interpretive perspective, these are largely works of historical analysis (e.g., Cronon, 1991). Indeed, there have apparently been few attempts to incorporate contemporary social theory into transport geography; instead, inspiration for new approaches is sought from policy-related areas such as environmental sustainability. Vigorous debates generated by the introduction of recent social theory into established subdisciplines such as medical geography (Kearns, 1993) or retail geography (Wrigley and Lowe, 1994) have not been replicated in transport geography.

In particular, transport geography has not engaged with feminist thought. In part, this reflects the largely male composition of the subdiscipline. It is notable that of all the AAG specialty groups surveyed in 1984, the transportation geography group contained the lowest proportion of women (8.3%) (Goodchild and Janelle, 1988: 21). Gender and transport has remained peripheral to the central concerns of transport geography, as revealed, for example, in a series of progress reviews of transport geography in the mid-1980s that failed to mention the topic (Rimmer, 1985; 1986; 1988).

The study of gender and transport has also been affected by the shifting winds of fashion in feminist theory in the last decade as the increasing prominence of poststructuralist perspectives directed attention from *structural* constraints to *discursive* constraints. McDowell (1993a; 1993b) has characterized the process as a shift from a

rationalist feminist empiricism (concerned primarily with social relations) to an anti-rationalist/'standpoint' perspective (concerned primarily with gender symbolism) and subsequently to a post-rational or postmodern feminism (concerned primarily with the construction of gender identities). While some aspects of her characterization may be challenged, it does seem clear that the description and measurement of structural constraints imposed by patriarchal social relations have been overshadowed in recent years by other theoretical concerns such as the construction of gender identities. Thus the established body of research on gender and transport, which addresses structural constraints on women's daily mobility, is not being enlivened by association with new developments in feminist theory.

To use a spatial metaphor, the geography of gender and transport as it has been defined now lies on the margins of two relevant subdisciplines. From the central terrain of transport geography, the topic appears to be an insignificant site cultivated by politically driven beings on the outer fringes of human geography. Yet from the central terrain of feminist geography in the 1990s, gender and transport appears to be a field of declining fertility, cultivated by sternly empirical folk absorbed in banal details of daily life. The result is that work on gender and transport has been increasingly isolated from developments in both transport geography and feminist geography, and now risks intellectual stagnation.

Where to now? A way out of this situation involves reformulating the theoretical foundations of the topic area, and this involves moves on two fronts. First, I suggest that the topic area be explicitly situated not as a component of transport geography as it is currently defined, but as part of a larger project on social and cultural geographies of mobility. Secondly, I suggest that a more systematic theory of gender as a category in social life should be adopted. These two moves form the basis of the next two sections of this article.

### III New directions: towards geographies of mobility

Metaphors of mobility abound in recent works of social theory, especially in poststructuralist writing, as several writers have pointed out (Matless, 1995; Wolff, 1995; McDowell, 1996; Cresswell, 1997). Hanson and Pratt (1995) find themes of exile, nomadism and movement between centre and margin in the work of Trinh Minh-ha, Kathy Ferguson, Gayatri Spivak, Chandra Talpade Mohanty and Elizabeth Grosz. Cresswell (1997) identifies a concern with travel, the migrant and the nomad, in writing by Clifford, Said, Deleuze and Guattari, and Chambers. Other examples include Grossberg's commuter (cited by Wolff, 1995) and de Certeau's pedestrian (1984). Yet, as Cresswell argues, nomadic subjects in postmodern discourse tend to be romanticized and decontextualized. In place, he calls for 'situated and provisional accounts of movement which do not gloss over the real differences in power that exist between the theorist and the source domain of the metaphors of mobility' (Cresswell, 1997: 379). In other words, we need to turn from the generalizations of post-structuralist theory, to construct more grounded social and cultural geographies of mobility.

Metaphors of mobility have been criticized for glossing over the gendered meaning of mobility in western experience. Wolff notes that, for the most part, the travel



metaphor is highly gendered, and she illustrates this through a discussion of Victorian women travellers and Beatnik writers (Wolff, 1995). McDowell (1996) expands this point in a debate with Cresswell (1993); in contrast to his interpretation of mobility as resistance, she offers a feminist reading of Beatnik literature and a challenge to the association of mobility with masculinity. When feminist thinkers use metaphors of mobility, it is often through reflection on their personal experience of mobility and travel. For example, the two collections of essays by Braidotti (1994) and Wolff (1995) (revealingly titled *Nomadic subjects* and *Resident alien*, respectively) link theory with their own experience of moving between languages and continents. Braidotti connects the figuration of the nomadic subject with her affection for places of transit such as tram stops and airport lounges, and then discusses the works of a number of contemporary artists which creatively appropriate and reflect upon places of transit (1994: 19–20). Although as yet undeveloped, this approach offers the possibility of connecting new currents in social theory with the lived experience of using transport.

Among feminist geographers, the work of Hanson and Pratt (1995) offers some useful possibilities for linking metaphors of mobility with research into urban housing and labour markets. They recognize the attractions of poststructuralist notions of fluid, mobile identities, but set these ideas alongside firmly grounded descriptions of a harsher world where identities are 'sticky' and choices are more tightly constrained. Although their Worcester research is primarily what they term a 'containment story', they note how mobility stories disrupt that narrative and 'help to remind us that identities, while constituted in and by places, also exceed them' (1995: 228). This theme is not strongly developed in their work, but it is a tantalizing example of the possibilities of thinking about mobility and identity in specific urban settings.

As Cresswell (1997: 361) notes, the study of mobility has not been accorded the same attention within the discipline of geography as place, space, landscape and territory. The new interest in mobility as a concept is now beginning to influence some geographical work on human movement over long distances, notably the study of travel (Robertson *et al.*, 1994; Clifford, 1997) and migration (Hyndman, 1997) and travellers (Sibley, 1995; Cresswell, 1996). Questions about the politics of mobility are also being raised in discussions of time-space compression and globalization. For example, Massey (1993: 62) shows how 'mobility and control over mobility both reflect and reinforce power'.

It is significant, however, that the less glamorous practice of daily mobility has to date been little affected by developments in social theory. Some scholars of disability have begun to connect concepts of difference, exclusion, access and justice with concrete issues of daily movement (e.g., Butler and Bowlby, 1997), but this work still tends to be interpreted as 'about disability' and thus outside mainstream concerns. Yet the topic offers a great deal of scope for study. Daily mobility incorporates a range of issues central to human geography, including the use of (unequally distributed) resources, the experience of social interactions in transport-related settings and participation in a system of cultural beliefs and practices. Attention to flows of people through the daily activity-space animates our understanding of geographic location of 'home and work', and links spatial patterns with temporal rhythms. It reminds us that while residential and employment location may be stable, human beings are not rooted in place, and that activity-space is not divided into a sterile dichotomy of (male) public and (female) private. Mobility is also a potent issue for local political struggles, drawing on the

interests of individuals variously identified by class, gender, disability, age and neighbourhood residence.

How then might we link the recent theoretical interest in mobility with the issues of daily mobility more commonly addressed in urban and transport geography? I suggest that instead of pursuing the metaphors of mobility which populate abstract theory, we turn instead to some new developments under the broad ambit of cultural studies, from fields including cultural geography, anthropology, history, sociology, disability studies, literature and feminist studies. This work offers insights into both practices and meanings (especially gendered meanings) of daily mobility, through grounded studies of specific situations, and so forms a useful counterpoint to the behavioural and policy-driven focus of existing transport research.

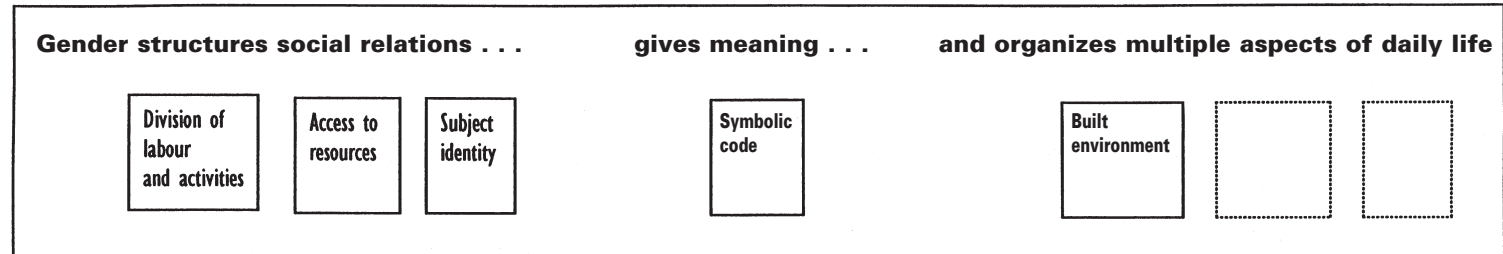
The question then arises of how these diverse works might be brought into conversation with each other, and with 20 years of research on women and urban transport. Do the different conceptual foundations prevent any easy connection simply on the basis of a shared topic? Recent work in feminist geography has offered some models of how to link conventional empirical research and new social theory. For example, Hanson and Pratt (1995) affirm the value of working with multiple theoretical and empirical traditions which allow views from diverse vantage points. The next section seeks to develop some linkages between the diverse traditions identified above by developing an analytic framework that links concepts of gender and daily mobility.

#### IV Towards an alternative

Gender is, among other things, a constitutive element of social relationships based on perceived differences between the sexes (Scott, 1988). Adapting the work of Harding (1986) and Scott (1988) for the purposes of this project, I suggest that gender as a category structures social relationships through the gendering of the *division of labour and activities; access to resources; and the construction of subject identities*. Power is exercised in each of these. Gender also provides a *symbolic code* by which items and activities are imbued with meaning. The operation of gender as a social category and symbolic code affects many aspects of human life; not all will be discussed here. For geographers, a key aspect is the *built environment*, which includes the organization of land uses in space, and the physical design of sites, places and routes. Although the effects of gender distinctions are pervasive, the form may vary, most significantly by historical period, place and class. The analytic framework thus alerts us to seek evidence of the operation of gender in five key areas, but does not specify how it will be played out in any particular context.

With a comprehensive framework for conceptualizing gender established, it is then possible to identify areas of social life where gendered patterns of daily mobility may be identified, as illustrated in Figure 1. This approach provides a way of integrating the scattered observations in the gender and transport literature about gender variation in daily mobility *practices* (i.e., transport behaviour such as modal choice, travel frequency, distance and duration). It also offers a way to identify and address questions about the cultural *meaning* of mobility practices and settings, drawing on some of the new cultural studies literature. I have identified five themes in the cultural studies literature relevant to mobility and to the analytic categories identified above. These include the

## GENDER



## DAILY MOBILITY

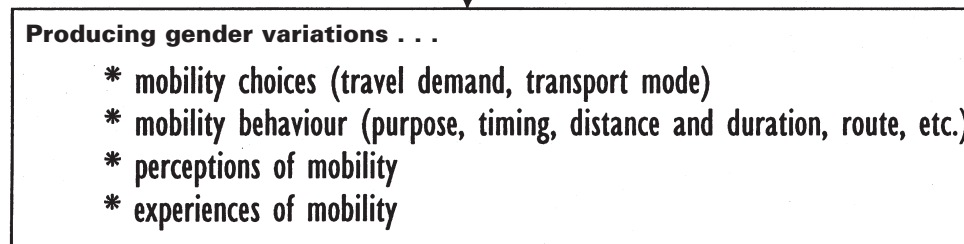
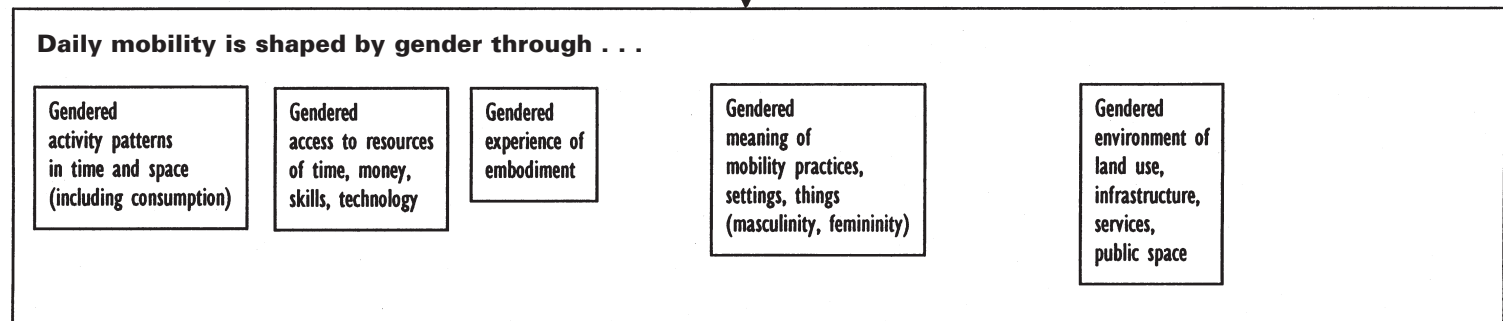


Figure 1 A framework for understanding gender and mobility

literature on *consumption* (relevant to the gender division of labour and activities), on *technology* (relevant to gender differences in access to resources), on *embodiment* (relevant to gender and identity), on *masculinity* (relevant to gender as a symbolic code) and on *urban public space* (relevant to a gendered built environment). This list of themes is by no means exhaustive. Despite some common themes, the cultural studies literature is not usually linked to the gender and transport literature. Below, I show how this might be done using the five analytic categories as an organizing device, and how this contributes to some potential new research directions.

## 1 Gender division of labour and activities

Attention to the gender division of labour and activities is chiefly useful in helping us to understand travel demand: in other words, the reasons why men and women make trips to particular places at certain times. Existing research on gender and transport includes a substantial component on the spatial and temporal differences in the organization of men's work and women's work, both paid and unpaid (e.g., Grieco *et al.*, 1989; Hanson and Pratt, 1995). In pointing to the complex time-space constraints on travel experienced by those (mainly women) who bear significant responsibilities for both domestic work and paid employment, this research has expanded our understanding of the links between labour patterns and travel demand.

The new literature on *consumption* suggests directions for future research into transport demands and patterns, and the meaning of work-related travel (Bocock, 1993; Miller, 1995). Gender divisions of labour in particular places are shifting in response to social and economic restructuring accompanied by new technology and consumption practices (Law and Wolch, 1993). For instance, when home-cooked breakfasts are replaced by commodified fast food, the site of food preparation shifts from kitchen to factory, and when paper records are replaced by electronic media, the site of some information-processing shifts from central city office block to the spare bedroom of a home-worker with modem. Restructuring in the retail sector over the last decade in developed countries has changed the spaces and times of shopping (Wrigley and Lowe, 1994). Hours of business have been deregulated, new stock control technologies have altered supply and storage patterns and shopping has grown as a leisure activity. All these have implications for the patterning of activities in time and space, and hence for (gendered) mobility.

The burgeoning academic interest in consumption has reduced emphasis on production and labour, and redirected attention to a more broadly defined set of activities. Gender influences nonwork daily activities such as recreation, entertainment, social contact with friends and family, political involvement, education, and practices of personal care and health care, all of which potentially generate trips. These nonwork-trips are more frequent than work-related trips for some groups, and may also be more important than work-trips in contributing to individual perceptions of mobility (or stasis). These trips are also less likely to conform to the simplistic notion of travel as a means of getting from A to B; in a social outing, 'getting there' is often part of the event. There is scope for a great deal more research into the multiple meaning of trip-making in various contexts.

The literature on consumption also alerts us to gendered practices built around

particular transport-related commodities. A good example of the possibilities inherent in this theme is Bishop's (1996) article on representations of the four-wheel drive vehicle in Australia, which links consumption with technology, fantasies of wilderness and national identity, although it includes only a few lines on constructions of gender identity. For geographers, sites of consumption are an obvious focus. In a review of research, Jackson and Thrift (1995) call for geographers to turn their attention from the formalized to the less formal everyday landscapes of consumption. Where, they ask, are the studies of high streets and car-boot sales? . . . to which we might add a call for studies of the bus stop, train carriage and the parking garage.

## 2 Gendered access to resources

Gender shapes access to resources, notably time, money, skills and technology. Access to each of these resources will influence travel behaviour (how often trips are made, where and when they are made, and the mode of transport used) as well as the experience and social meaning of mobility.

Gendered norms of domestic responsibility, overlaid on temporal rhythms of childcare and domestic work, and on spatial patterns of segregated land-uses, and combined with inflexible service hours, and minimal public transport, generate time-space constraints that restrict the mobility of those responsible for this work (mainly wives and mothers). Time-space constraints also take the form of gender-specific safety concerns about travelling outside daylight hours. Both issues are well recognized in the gender and transport literature, but there has been as yet little research which examines how these might be changing. There is scope to link older gender and transport studies with recent sociological studies of the changing temporal rhythms of work and home life brought about by economic restructuring.

Gender variation in earned income is mitigated to some extent by resource-pooling between spouses, but single women typically have lower disposable incomes than single men (and are less likely to work in jobs that supply a company car). Lack of money mostly acts to restrict daily mobility, although paradoxically people in extreme poverty and homelessness may undertake long trips (daily or periodic) as a coping strategy (Wolch *et al.*, 1993). Although transport research shows that individuals without access to cars tend to have more constrained mobility, we do not know very much about how consumption decisions of low-income men and women vary, and the reasons why a car may or may not be purchased (but see Dowling and Gollner, 1997).

Transport-related skills include a range of mechanical and physical competencies (such as the ability to change a tyre or ride a bicycle). While these skills directly affect one's ability to use a mode of transport, they also reflect differences in learning opportunities, and translate into human capital which affects labour market positions. Studies of the distribution of driver's licences typically reveal an unequal share held by men and women, although the disparity varies by age group, place and period (Pickup, 1989). Possible research questions include, for example, studies of the implications of trends in gender variation in transport skills. As licence-holding becomes more common among women, some of the gender variations in mobility now observable among older men and women may diminish, and the cultural meaning of driving as a marker of masculine power may alter.

Relevant literature includes studies of the history and cultural meaning of *technology*, especially that concerned with gendered practices in our use of machines, and gender implications of technological change (Zimmerman, 1983; Wajcman, 1991; Cockburn and Ormrod, 1993). Over time, the focus of this work has moved from 'women and technology' to a concern with the way that technology and gender relations mutually shape each other (Wajcman, 1991). Of all everyday technology, transport technology probably has the most deep-seated and wide-ranging connection to gender distinctions, as everyone who has ever heard a joke about women drivers or noted the prevalence of images of trucks and cars on clothing for little boys will recognize. Yet this topic has received little specific attention by academics, and most of what has been written is concerned with the past.

Historians of the motor car have been slow to address its social and cultural impact (Flink, 1980), and even slower to explore the gendering of that impact (Sanford, 1980). Research on patterns of car ownership and driving among men and women in the USA, and on gendered characterizations in the media, is fairly recent, and is largely confined to North America (Wachs, 1987; Scharff, 1991; McShane, 1994). This work intersects with the history of domestic technology. For example, Cowan (1989) expands the conventional definition of domestic work by including transportation as one of the eight interlocking technological systems that make up twentieth-century household technology.

There is clearly scope for investigations into the gendered use patterns, meaning, and implications of *contemporary* transport technology. For example, Hebdige's (1988) study of the meaning of Italian scooters in 1950s Britain incorporates attention to both the design and social meaning of a commodity (also see du Gay *et al.*, 1997). Research into car use has overturned the assumption in conventional travel demand models that household resources (such as a car) are equally available to all household members with driver's licences (research cited in Giuliano, 1983; Pickup, 1988), but we still know relatively little about the meaning attached to transport resources within households. Although ethnographies of household consumption are generating some interesting research, this is mostly on new technology (such as the microwave oven) and on domestic space (e.g., Silverstone and Hirsch, 1992; Cockburn and Ormrod, 1993), while neglecting longer-established household goods such as cars which comprise an ambiguous semi-domestic space. We also know little about transport resource allocation among different kinds of households (such as gay and lesbian couples), and little about ways in which a husband's historic hold over the car keys may be weakening as households and labour markets evolve.

Changes in transport technology must also be understood with reference to telecommunications innovations that potentially replace the need for the physical movement through space of people and goods (Graham and Marvin, 1996). While these technologies potentially reduce some barriers of access, they are often deployed in ways that reinforce gender differences in employment rather than diminish them (Baran, 1985). The gendered implications for mobility of many new telecommunications technologies remain to be explored. For example, how does possession of a mobile telephone affect the sense of safety of men and women when out alone at night?

### 3 Gendered subject identities

Relatively little work investigates mobility and gendered subject identity. Hamilton and Jenkins (1989: 26) note that 'the inter-relationships between gender, personality, and travel behaviour appears to be an area which is wide open for research' and point to gendered psychological factors such as 'interest and ego involvement in cars, ... mechanical confidence and ability, and perceptions of roads as a hostile, threatening, perhaps even alien environment'. One potentially useful body of theory and research which may contribute to this area is the work on *embodiment*.

The concern in contemporary social theory with the construction of subject identities has included attention to the social and discursive construction of human bodies, drawing on Foucault, feminist theory and on the issues raised by disability activists (Turner, 1984; Butler, 1993; Grosz, 1994). In geography, this theme has generated studies of the use of space by people with aged bodies, pregnant bodies and disabled bodies (Longhurst, 1994; Dyck, 1995; Laws, 1995; Gleeson, 1997). Studies of embodiment have not yet been specifically linked to transport geography, although the politics of access and mobility are raised in the disability literature (e.g., Cormode, 1997). Yet as information flows more and more freely through space, it is only the stubborn corporeality of the body which distinguishes physical mobility from other ways of crossing time-space boundaries. In the discussion below, I speculate on how attention to embodiment might inform research on gender and daily mobility.

The social coding of a body as female in our society produces a specific vulnerability to sexual assault by men, and an associated set of norms of respectable and safe behaviour. Research has shown that these disciplinary norms, absorbed by girls from an early age, produce a more restricted neighbourhood play area (Hart, 1979; Katz, 1993), and later operate to limit travel after dark and in 'dangerous' places, and constrain choice of modes such as walking or hitch-hiking. We already know that women limit their trip-making through fear; we need to know more about the wider social practices which reinforce, sustain and naturalize this practice.

Bodies are bearers of embodied skills. The ability to ride a bicycle or motorcycle, even to embark a bus, is encoded in the physical memory of muscle and awareness of bodily boundaries. Learning these skills is a social process, and the skills have social meaning. Young (1990) notes the research indicating a feminine style of body comportment and movement among western women that is marked by restraint and hesitation. She explains these modalities in terms of a phenomenology of the body in a gendered society which leads to practices like 'throwing like a girl'. Although men and women may begin life with roughly comparable physical potential, the bodies they end up with are gendered constructions which condition the mobility choices open to them; research can uncover these processes.

Bodies are a source of pleasure. In conventional transportation theory, transport is a derived demand; people undertake trips for some other purpose, not for the pleasure of movement itself. Yet this does not hold true for all trips. For a full understanding of mobility we must recognize the physical pleasure of moving bodily through space and exercising embodied skills (such as riding a powerful motorcycle), and the way that those pleasures are differently experienced and made available to men and women.

Bodies are also the means of expressing our public self. Men and women are embodied in a social context which specifies norms of social presentation, such as

clothing. So, for example, whether or not individuals choose cycling as a mode of transport to work depends in part on whether they are working within norms of presentation which allow them to feel comfortable arriving at work sweaty and dishevelled. Greater understanding of how these norms are reinforced or transformed, and how they influence perceived opportunities for mobility, will shed light on gender variation in travel behaviour.

Bodies vary by shape, size and stamina and all mobility requires at least some exertion. Rosenbloom (1980a) notes how little of the human factors research on transport technology has paid attention to potential variations between women and men. There is potentially more physical variation *among* women than among men; pregnancy and longer life-spans for women mean that physical ability to move one's body may vary quite substantially over the life course. However, it is insufficient to treat gender variations in physical ability only as a matter of biology. Biological processes interact with the social construction of bodies and are translated into mobility constraints in specific historical contexts (see Longhurst, 1994, on pregnancy). Future research could explore how gendered variations in mobility are affected as the social construction of idealized male or female bodies is transformed through, for example, an increased emphasis on physical fitness.

But bodily boundaries are not unambiguous. In much transport geography and planning, trips are imagined as being made by independent individuals, each contained in a body that is a distinct, separate and equivalent unit. Although there is some recognition of the physical needs of particular groups (such as people with impaired mobility), bodies appear in conventional transport planning models as discrete entities with independent trajectories. However, we might query to what extent that model holds true. For example, someone travelling by train with a baby must carry the infant with them to ticket office, toilet stall, boarding platform and train compartment, and must manage the physical demands of embarking and disembarking while carrying baby (not to mention stroller and baggage). In a sense, then the bodily boundaries of the adult escort expand to encompass the small child. Since women make many more trips as escorts for dependent people, the 'billiard ball' metaphor of an independent travelling body is much less appropriate for them than for men.

#### 4 Gender as a symbolic code

The symbolic aspect of gender (its use as a cultural category) is most useful in helping us understand the meaning of mobility, rather than predicting transport patterns. Male and female as a binary pair are widely associated in western thought with other hierarchical binaries, such as mind/body and nature/culture, and are linked to pairings of work/home, city/suburb and public/private in a cultural ideal that emerged in the nineteenth-century middle class (Bondi, 1992; Vaiou, 1992). In this ideal, men are expected to move between spheres, while women's mobility may be interpreted as transgression. The theme of gendered spaces is well established in feminist geography, and the circumstances under which this gendered cultural ideal emerged in Europe have received substantial attention (Nead, 1997). Transport technologies are also often coded in binary terms. One obvious pair comprises private transport/public transport, with the latter category assigned as female.



Consumer products such as cars have also been linked to gender identities; for example, Scharff (1991) shows how in the early part of this century in the USA, low-powered electric cars were specifically marketed as being appropriate for women. The issue is addressed in studies of contemporary popular culture such as Berger (1986) on the woman driver stereotype. There is scope for a great deal more scholarship which advances our understanding beyond a simplistic description of an idealized gender code, to a focus on the way that these codes are sustained, reinforced or subverted by social practices of mobility among different social groupings.

The new scholarship on *masculinity* (Connell, 1995) provides a specific focus for investigations into the gendered coding of transport-related activities, technologies, environments and subject identities. Cultural representations of masculinity are rich in transport references, as any survey of Hollywood movies (e.g., the 'road movie' genre), television advertisements (e.g., car commercials; Perry, 1994), daily newspapers (e.g., the 'Motoring' supplement), or specialist media (e.g., tractor ads for farmers; Brandth, 1995) will reveal. But there are also possibilities for analysis of less obvious cultural sources. For example, Brown (1995) has collected a striking anthology of contemporary American poetry about cars and driving which includes sections devoted to women's and men's voices and to experiences such as travelling by bus (see also Lewis and Goldstein, 1980). The debate over the meaning of mobility in writing from the Beat movement suggests the potential of these resources for work in cultural geography (Cresswell, 1993; 1996; McDowell, 1996; Rycroft, 1996).

## 5 Gendered built environment

Daily mobility takes place in a built environment which includes the organization of land use, and the physical layout and design of networks (roads, paths) and of facilities (such as bus shelters and parking garages). The built environment intersects with the design and meaning of the transport technology (such as buses and cars), the form of service delivery (such as routes, timetables and fare structures) and the patterns of subsidy and costs, to form a gendered structure within which daily mobility practices are enacted.

Some the research on gender and transport has focused on the physical features of the built environment, and how they impede mobility (e.g., GLC Women's Committee, 1985). There is scope for this work to be linked to writing on *urban public space* from cultural studies of urbanism and the lived experience of modernity and postmodernity (de Certeau, 1984; Jameson, 1985; Jukes, 1991). 'The street' has a privileged position in this literature, serving as both a metaphor for city life and a term for a particular (transport-related) element in the urban built environment. There is often an unacknowledged slippage between the two meanings, but the best work avoids this by incorporating detailed studies of activities in particular streets in a historical context (e.g., Nead, 1997; Domosh, 1998). Although there is a large literature on pedestrian activities (e.g., Jacobs, 1959; Whyte, 1988), only some of this addresses the gendered experience of being in the street. For example, Deegan (1987) uses a dramaturgical approach to interpret the experiences of the female pedestrian, and Connell (1987: 132–34) speculates on the experience of the street in the context of gender regimes. These investigations into the gendered cultural meaning of

the street suggest new possibilities for investigating elements of transport infrastructure.

The debate on the 'female *flâneur*' is a good example of the way that considerations of gender shed new light on established ways of thinking about the connections between urban public spaces and the culture of the time. The *flâneur* (who strolls out most visibly in nineteenth-century Paris) is the detached observer and denizen of the arcades and streets, who in Walter Benjamin's (1973: 36) vivid phrase, spends his time 'botanizing on the asphalt'. Benjamin's influential study of Baudelaire links the persona of the *flâneur*, and the rise of cultural modernity, with the sensations experienced by the anonymous stroller in the urban street. This approach suggests alternative ways of thinking about the use and social meaning of transport infrastructure such as the street. Yet this literature is firmly rooted in the experience of men; women appear chiefly as prostitutes ('street-walkers'). Wolff (1990) argues that the sexual divisions operating in the nineteenth century make it effectively impossible for the female equivalent (a *flâneuse*) to exist. Her argument is countered by Wilson (1992) who points to alternative social practices and spaces (such as the new department stores) where a *flâneuse* might emerge. Can we now link the *flâneuse* debate with the 'women's fear' strand of transport research to generate a more sensitive, historically situated understanding of the social mechanisms (including the threat of violence) that reproduce public space as male-dominated?

## V Conclusion

The research on gender and transport has made an invaluable contribution to the geography of gender, and to the geography of transport. It has demonstrated the power of a quantitative feminist geography which expands our understanding of social processes in time and space. The strong empirical base of this work has allowed for authoritative interventions in debates on transport planning and urban policy. Yet the roots of this work in transportation engineering and in empirical feminist urban geography have meant that some potentially useful alternative approaches – notably those associated with the 'cultural turn' – have been neglected. The time is ripe for a reconsideration of the gender and transport literature, and a search for new ways of thinking about transport-related issues as a gendered set of practices and meanings.

I have argued that the issues raised in the gender and transport literature are too important to be left to stagnate in an academic terrain defined as marginal to both transport geography and feminist geography. As a strategy to redefine the terrain, I have suggested an engagement with some bodies of literature not usually read together, and a more systematic theorization of gender. This strategy thus marks out new scholarly terrain (naming it 'gender and daily mobility') within a larger project on geographies of mobility. Instead of being seen as marginal, the terrain can now be understood to be located at the heart of geography (via the core concept of movement), and in the thick of recent debates in feminism and social theory.

Yet while there is much potential in the literature from the 'cultural turn', we also need to sound a note of caution here. The insights that the new literature sheds on the practices and meanings related to mobility should not distract us from the *politics* of mobility. Concern for injustices in access fired much of the early feminist work on

gender and transport, and still inspires much work on policy. This tradition must not be lost as we take the cultural turn; instead, we must look for ways to link it to other traditions such as disability and environmental activism, and to other concerns in geography, such as time-space compression. In Massey's (1993: 63) words, 'conceptualising space, mobility and access in a more socially imaginative way . . . might enable us to confront some of these issues rather more inventively'.

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