Encyclopedia of Developing Regional Communities with Information and Communication Technology

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Connecting Dispersed Communities on the Move

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INTRODUCTION

Travel assists the development and maintenance of social networks from the local to the global by connecting people to places. The time spent travelling has tended to be regarded by many analysts as a necessary sacrifice to achieve this connectivity. Accordingly, the expansion or dispersal of communities has been a function of journey times, limited in turn by journey speeds in the face of increasingly congested transport networks. Yet in a world being transformed by Information and Communication Technologies (ICT), this article contends that there is now a need to examine more closely the presumption that travel time is "wasted" and indeed to consider how, with the aid of ICT, this time might be being used to sustain or even encourage the dispersal of communities.

The article considers existing debates surrounding travel time use from transport studies and the social sciences to develop an agenda for conceptualising travel time use in relation to dispersed communities. The first section summarises concepts of spatial regions and regional-based activity that inform the study of mobility and transport. It argues corporeal travel remains necessary to sustain social and business networks that interweave local, regional and global geographic spaces. The discussion moves on to the experience of travelling and travel time use in the second section. Here, research into travel and mobile technologies illustrates the positive utility of travel time, and how mobile technologies reshape spatial connections on the move. The final section considers new modes of enquiry to explore this research area.

SUSTAINING DISPERSED COMMUNITIES

Travel and communication infrastructures facilitate regional connectivity in bringing together people, objects and places (copresence). Each academic discipline approaches regional division and connectivity with different assumptions about society, urban design, and the role of technologies (Amin & Thrift, 2003; Graham & Marvin, 2000).

Social science debates exploring ICTs concentrate on the historical technological shrinking of time-space that has enabled the emergence of new global industrial relationships and employment practices (see for example Castells, 1996; Harvey, 1990). The telephone supports and maintains locally and regionally distributed kinship networks, particularly where the opportunity to travel for face-to-face meetings is limited by time and money (Licoppe, 2004). Yet, in an age of mediated communications (phone, email, etc.), copresence remains an important function of social practice (Boden & Molotch, 1994; Urry, 2003). Thus, as Urry (2002) argues, the relationship between copresence, social networks and mobility infrastructures warrants a more detailed understanding.

Discussions about copresence and accessing activities assume spatial separation and zoning of activities (e.g., central business districts and suburban housing). Planning and analysing industrialisation and urbanisation established the notion of spatially zoned activities (Harvey, 1990; Lash & Urry, 1994). Notably, the home-work-leisure relationships produced through a time economy (the division of paid labour and leisure time) frame discourses of produced space, i.e. urban space that is planned in relation to the economy and fixed capital investment.

The time economy, based on clock time as a quantifiable mechanism for measuring output, is central to concepts of productivity, values of time, and the ordering of everyday social practices (Adam, 1990; Thompson, 1967). Work at the factory and office has developed around predefined hours shaped by work-related legislation (e.g. nine to five, Monday to Friday), as well as at specific locations. "Work time" then implicitly frames the notion of "free time"[1].

More recently, these traditions of "working hours" have started to dissolve with the development of global trading, the Internet, and call centre service provision (e.g. shopping and banking), etc., where working hours have extended to correspond with international time zones

and the move towards a 24 hour culture (Krietzman, 1999). The information age is leading towards new employment practices and management structures (e.g. contract work, a growing mobile work force, and teleworking), which suggest a blurring and break down of traditional time-space boundaries (Castells, 1996; Lash & Urry, 1994).

Copresence remains a central part of everyday life *despite* the potential of mediated communications (letters, email, phone, the internet, etc.) for substituting the need to travel to places to see people, and impacts on everyday and less regular transport requirements, schedules and expectations of punctuality. Urry (2002) argues face-to-face communication, or being in a particular place, are embedded in social and cultural practice and obligations, and notions of social inclusion. Boden and Molotch (1994) argue from research into workplace communication that face-to-face contact is important at a number of levels including the non-verbal and informal talk. Rituals of copresence are institutionalized in many other aspects of life such as weddings, demonstrations, parliament and the legal system (Urry 2002).

Yet, until recently social scientists have paid little consideration to the mechanisms by which copresence is achieved. Urry (2002, 2003) argues the importance of developing a "sociology of mobility", and there is a move towards understanding the urban as constituted by flows of mobility (corporeal and virtual) and nodes of intersection (Amin & Thrift, 2002; Graham & Marvin, 2000). Travel time use has mainly emerged in the analysis of the experience of driving (for example Miller, 2000).

In contrast, activity modelling in transport studies has sought to address behavioural questions surrounding the transport demands produced by copresence and the movement between the "activity" locations. Activity modelling, with transport economics, focuses on destination and travel mode choice and value of travel time savings (see for example Metz, 2002; Mokhtarian & Chen, 2004). Here travel time is conceived as unproductive or wasted time, or at least as time that could be "better spent" if not required for travel. This assumption has led to two main research trajectories. Firstly, quantifying travel time "budgets", and, secondly, calculating monetary values for units of travel time and how much people are willing to pay for travel time savings (e.g. for evaluating investment into high speed trains or toll roads).

The notion of a travel time budget argues that there is a limited amount of time that people are prepared to, and indeed do, commit to travelling, which implies that faster (and flexible) travel enables more (or better quality) activities to be accessed over greater distances (Mackie et al., 2003; Mokhtarian & Chen, 2005). How much time is given to a destination activity also reflects on how much time people are prepared to travel for the activity (Schwanen & Dijst, 2002).

Transport economists calculate the values of travel time savings to inform investment in to new or improvements to transport infrastructures that reduce travel times (Hensher & Goodwin, 2004; Jara-Días, 2000, Mackie et al., 2003). In debating existing research, Mackie et al (2003) argue the average value of business time is four times that of non-working time, and different modes (car, bus and train) carry relative values of time. Jara-Diaz (2000) argues that travel time savings enable increased levels of economic output through greater time spent on production, and that time savings improve quality of life.

In summary, where time is equated with production and a time economy, travel time use is perceived as a quantifiable resource. Concepts of copresence, along with the activity modelling approach, provide a rationale as to why people come together at specific locations and times. However, the focus on connecting spatially separate activities and reductions in travel times has lead to a lack of understanding of the mobile subject (the traveller) and how travel time is and can be used. The incorporation of mobile ICT into everyday social practice specifically provides a new trajectory for travel time use. The section below develops the argument of mobile ICT and mobility to explore the question of connection to multiple regions in relation to travel time use and traveller identity.

TRAVEL TIME USE IN THE INFORMATION AGE

The discourse of travel time is at the brink of change. In the UK, rail companies have integrated laptop sockets into train design and are exploring on-board "wi-fi" connections. Concern over mobile phone use while driving has changed UK legislation. While grappling inconclusively with the positive utility of travel time in transport models, transport planners and providers recognise the importance of travel environment design in affording a space to work and communicate (see Cohen & Harris, 1998; Mackie et al., 2003). New methodologies are required for evaluating this development.

Emerging from debates about travel budgets, Mokhtarian and Chen (2004), consider how travel time might be a positive utility, beyond accessing the destination. They argue that the physical and psychological experience of travelling (e.g. driving), activities conducted while travelling, and travel time as "time out", all contribute to travel time having a positive utility (see also Mokhtarian et al., 2001; Pazy et al., 1996). Their arguments points to a need for transport studies to develop its understanding of travel time use.

Other studies in the social sciences consider travel time as part of wider mobility debates. The positive utility of travel time is identified in a number of mobile practices

such as reading documents, making phone calls, planning the day ahead, listening to music and daydreaming and, the creation of individual identity (see Bull, 2000; Davies, 2001; Edensor, 2003; Haddon et al., 2002; Laurier & Philo, 2001; Pearce, 2000; Perry et al., 2001). These debates extend the concept of travel time use to viewing the mobile individual as a node connected to heterogeneous networks of regional flows, and the movement of the consciousness (imagination, memory, everyday thoughts) between temporal regions of past, present, and future. These authors illustrate how travel time can be appropriated for mundane work or transformed into a fantasy space. Importantly, the journey is often constructed as bridging two worlds, and thus time to re-formulate identity.

A growth in the mobile workforce presents a way of connecting the discourse of travel time from social science and transport studies. Business travel often frames the justification of travel time savings, as discussed earlier, but research into mobile technologies and business practices indicates how travel time is usually carefully planned and re-appropriated rather than being lost or wasted. A study of mobile workers observed the pre-planning of "on-the-move" activities (Perry et al., 2001). Paper documents, mobile phones and laptop computers were integral to this process, but reflected the form and duration of travel, and availability of power supplies and signals.

Paper documents and mobile technologies connect the mobile worker to spatially and temporally distant regions in their everyday working practices. Specifically, electronic media (the internet and mobile phone) take a key role in connecting mobile workers to HQ to obtain real-time information (facts and figures, reports, updates, etc.), and to proximate and distant clients, often with reference to the future objectives (planning strategies, sales pitches, or re-arranging meetings) (Laurier & Philo, 2001; Perry et al., 2001). Electronic media also maintain personal relationships during the course of work away from home. However, as Urry (2003) points out, some contact can be an unwelcome intrusion.

The use of paperwork and electronic media for work related productivity is tangible for quantification, but Pazy et al. (1996) points out that "unassigned" time can also benefit the individual. Reading for pleasure, listening to music, daydreaming, sleeping all transform the travel experience but are difficult to evaluate in relation to the time economy.

The ability to listen to your own personal selection of music through a personal stereo, especially when commuting, Bull (2000) argues, provides an individual with a way of regaining control over travel time and "transforms it in to an experience of freedom" (p. 58). Bull's research participants travelling around London illustrate a complex notion of travel time. By regaining control over "unproductive" travel time, people construct travel time as "time for themselves" through activity, in this instance, listening to music. Bull (2000) reports journey duration has to be in tune with the selected listening, where research participants stated they specifically selected a slower mode (e.g., bus over underground rail) or walked a longer route to have enough time to listen to their *own* music selection rather than the shared choices at home or elsewhere.

Pearce (2000) and Edensor (2003) expand this discussion of music and travel through autobiographical analysis of driving. For Edensor (2003) choosing "drive-time" music to accompany the drive along the M6 (a motorway in Britain) is contextualised by the tempo of driving (speed, congestion, etc.) and the collective memory of past trips from his own experiences and the urban myths of motorway travel. Pearce (2000) uses the north-south drive between own home and parents home to illustrate how the music selected for the journey becomes integral to forging a bridge between her present life with her past life and parental expectations.

The accounts of travel presented above indicate a varied response to travel time, its use and the importance connection in space and time. Travel time use and travel budgets are based within quantifiable measures within the paradigm of the time economy. However, travel is rooted in more complex sets of negotiations, whether routine travel to work or shops, or the less frequent or regular routes and times of businesses travel and maintenance of kinship networks. The exploration of how electronic media provide new opportunities for connectivity and productive time use is one trajectory, but the use of personal and car stereos sparks other sets of time-space understandings. Exploring travel time use, therefore, presents a complex research agenda.

SETTING AN AGENDA FOR TRAVEL TIME USE RESEARCH

From the above discussion, the social science approaches present a detailed reflection on the mobility practices that currently elude transport models. Forging connections between the two disciplines is a key trajectory for the future of this research area. In particular, crossing disciplinary boundaries requires the appraisal of the epistemological and ontological differences in order to develop new methodologies and research questions, and ability to argue with qualitative data that writing business strategies *and* daydreaming command value in a discipline shaped by quantitative understandings when assessing the positive utility of travel time.

Concepts of "multiplicity" or seeing the individual subject as a node in a web of connections, balanced between spatial and temporal regions, falls outside the realm of most transport planners, economists and prac-

titioners. Yet transport professionals, through the planning, design and management of transport infrastructures, actively produce the opportunity for corporeal and electronic connectivity.

Social scientists have not rigorously addressed the issues of travel time use and the mobile individual as situated within a network of regional connectivity as a specific research topic. The discussion and arguments presented above emerge from wider debates of work practices, new technologies, concepts of mobility spaces, and feminist understandings of subjectivity. However, this body of work indicates the possibility of new methodologies of investigating and understanding corporeal mobility alongside the uptake of new technologies, and embedded practices of existing technologies (e.g., listening to music). It also illustrates the possibility of "being" in more than one place, as the mobile individual flits between the "virtual" regions of, for instance, the home and work, and between the past, present and future times, whether in the imagination or through mobile communications, while physically moving between places in chronological time.

The question can no longer be "Is travel time wasted or not?" There is a need to broaden understanding of *how* people use travel time to maintain connections. For the development of new technologies (e.g., mobile phones and wireless internet), and the use of these technologies in transport systems, this is key in understanding not only that these technologies have a function (they can be used on the move), but the way in which society incorporates these technologies into everyday practice. Further research may reveal that the use of mobile technologies while travelling affords more opportunities for maintaining and strengthening social and business networks, thus having a positive effect on sustaining regionally dispersed relationships.

The use of travel time in constructing individual subjectivity also indicates the importance of travel time as "time out "or "time for the self", which evades quantification. This raises two key points. Firstly, how does this "non-quantifiable" use of travel time enter the discourse of the economic appraisal? Secondly, as Pazy et al. (1996), Pearce (2000), and Mokhtarian and Chen (2004) point towards, how does travel bridge the psychological gulf between subjective regions whether between work and home or own home and parents, and, in the world of international migration between adopted and home culture?

There is a huge gulf between the autobiographical approaches presented by Pearce (2000) and Edensor (2003), and the value of time evaluation by Mackie et al (2003). However, there is much to be learned from individual narratives in deconstructing meanings, assumptions and contradictions surrounding travel time use. Thus, this research topic can only gain by looking towards qualitative methodologies that seek individual narratives and practices through interviews, focus groups and ethnomethodology. Such approaches reveal how the mobile individual can act as a node within a network of flows connecting multiple spatial and temporal regions, and thus contribute to debates of conceptualising the region in a mobile society.

CONCLUSION

This article identifies a research gap in understandings of travel time use. In the context of sustaining dispersed communities electronic media present an opportunity to explore firstly how travel time can be used, and secondly, how social networks can be maintained and managed while on the move. The exploitation of these media has been identified in the context of business travel in connecting regions for resources and planning. However, not all travel spaces are suited to specific forms of media, and thus, paper retains an important role in enabling a productive use of travel time.

Measuring travel time use for commuting and other forms of travel (usually categorised as leisure) is more complex, as it falls outside the context of economic productivity, but consumes personal or leisure time as defined by the time economy. The personal stereo is one technology that illustrates the re-appropriation of travel time. Music redefines the travel space (whether on public transport or in the car) connecting the traveller within a web of collective memories associated with other spaces beyond the confines of the car, train or bus. The shaping of identity through daydreaming and music while travelling constructs travel time as an opportunity for bridging identities and the expectations of regionally different communities. Such practices indicate how mobile individuals need to re-orientate themselves to participate in multiple roles associated with spatial or regional difference.

The research agenda for travel time use in the information age, therefore needs to recognise these nuances of time and space, and consider how new discourses of "a positive utility" can be constructed. The article argues that narratives of travellers can provide insights into the complex negotiation of travel time and its relationship with spatial and temporal regions that are epistemologically different to the philosophy behind economic evaluations of travel time budgets and value of travel times savings. Thus, a key direction for the future of this research is to consider how such qualitative understandings of travel time use are translated into transport planning and provision.

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KEY TERMS

Copresence: The coming together of people (face-to face), people with objects (face-to-object), or people with places (face-to-place) in time and space.

Corporeal Mobility: Bodily movement between places such as by car, rail, or foot.

Social Networks: The tight or loose connections between people (family, community, associations, work, etc.) that are key to sustaining regional connectivity.

Time Economy: Time defined by clock time and production, where time in the form of labour is exchanged for money.

Travel Time Budget: The proportion of time allocated by individuals for travel per day.

Value of (Travel) Time: Economic costing of how much people are willing to pay for travel time savings for infrastructure investment.

Virtual Mobility: Movement of electronic data and information between locations, which includes telephone calls, emails, internet searches, etc.

ENDNOTE

[1] Feminist critics argue that women's lives have never exhibited such clear boundaries (Daly, 1996; Davies, 2002).