

Remarks on the social organisation of space and place

Andy Crabtree

The School of Computer Science and IT
 The University of Nottingham
 Jubilee Campus
 Wollaton Road
 Nottingham NG8 1BB
 United Kingdom.
 axc@cs.nott.ac.uk

Abstract. Human conduct is always situated in a particular space or place yet little is understood about the social organisational relationship between space, place and conduct. In pursuing a *sociological* line of thought, ordinary conceptions of space have been elaborated such that spaces and places are seen as constructions expressly designed to constrain and shape our lives. While there is much to such notions, the embodied practices and interactional competences in and through which space is socially organised in real-time pass by ‘unnoticed’. Drawing on an ethnographic perspective in general, and an ethnomethodological perspective in particular, this paper outlines an approach to the study of the social organisation of space and place from the largely unnoticed point of view of social *action*.

Keywords. Space, place, social organisation, situated activity, embodied practice, interactional competence, naturalistic inquiry, ethnography, ethnomethodology.

1. Introduction: everyday and sociological understandings of space and place

This paper emerges out of a concern to develop a *sociological* awareness of our ordinary, pre-theoretical understandings of space in the effort to design shared virtual environments (Crabtree *et al.*, 1999; Hughes *et al.*, 1999). I set aside issues of design here, this simply not the place to explore them (see <http://escape.lancs.ac.uk/> for some relevant materials), suffice to say that the design of virtual environments progresses in parallel with our appreciation of the mundane organisation of real-world spaces and places. Insofar as this paper may be of interest to systems designers (and others) then it is respect of informing them as to some fundamental features of that mundane organisation within which their systems will be embedded and, if ‘successful’ (i.e. implemented, used, and adapted in practice), transform. As a point of departure, it should be said that by ‘ordinary understanding’ I am referring to the world as we experience it in the normal, natural course of conducting our daily affairs - to a practitioner’s perspective in action in contrast to a professional analyst’s perspective in reflection. In treating the issue of space and place I refer, then, to the world as we ordinarily orient to it *in the course of* conducting practical activities (Garfinkel, 1967). This ordinary understanding or ‘natural attitude’ (Husserl, 1999) is largely ignored by the social sciences, yet it is integral to the real-world structure of space and place. In Husserl’s terms there is a ‘forgotten genealogy’ to social science conceptions of space and place (amongst a great many other topics), a genealogy which is located in the practical actions of people. I will return to Husserl in conclusion. For the time being let it suffice to say that the purpose of this paper is to ‘sensitise’ (Blumer, 1967) the reader to some central features of the forgotten genealogy which underpins the organisation of space and place in our everyday lives (whether for purposes of sociology, systems design, or something else).

In conducting our practical affairs we take it for granted that people, places, objects, and events are spatially distributed. We have a natural awareness that space is an organisational

* © Andy Crabtree, 2003. This is the author’s version of the work. It is posted here for your personal use. Not for redistribution. The definitive version was published in *Homo Oeconomicus*, vol. XIX (4), pp. 591-605, 2003.

feature of our daily lives, that it is irredeemably embedded within practical matters such as ‘how far is to London from here?’, ‘where is the nearest phone?’, or ‘what is the quickest way to Joe’s place?’. In the first instance, space is not a worldly abstraction then, but *embodied* in, and integral to, the accomplishment of the activities that we do (Merleau-Ponty, 1962; Sudnow, 1972; Lee & Watson, 1991; Hughes & O’Brien, 1998).

Recognition that space is implicated in the organisation of conduct occasioned sociological interest in the subject. Previous sociological treatment of space has largely been subsumed under the rubric of urban sociology and social geography (Park, 1926). The concern here was, and is, with charting the geographical distribution of various social characteristics: income, industries, classes, religion, ethnicity, population types, mental illness, and so on. On this ‘ecological’ view, space is effectively construed as an arena ‘within’ which members construct their courses of action. This is a vernacular notion of space conveyed in expressions such as the ‘environment’, ‘surroundings’, ‘territory’, etc. Spaces and places become, as it were, the settings within which social activities of various kinds occur. This vernacular view is consistent with the mundane observation that certain spaces or places are tied to the performance of particular activities: classrooms are organised for teaching, restaurants for eating, libraries for storing and retrieving books; roads for the orderly movement of vehicles, and so on. There is, then, a strong sense to the notion that particular spaces and places are tied to particular activities - that spaces and places are institutionalised and, as such, constrain and shape action (Goffman, 1961).

2. Space, place and conduct

Without disputing common sense notions of space, notions which underpin and are elaborated in theoretical treatments of space and place, I prefer to adopt a rather more interactionist attitude towards the end of seeing how space and place are interwoven both with and in conduct. That is, towards seeing ‘just how’, and through ‘just what’ ordinary interactional competences, spaces and places come to be implicated in the organisation of practical matters. Seen from the point of view of interaction in everyday life, spaces and places consist of intelligible or meaningful material arrangements which are tied to the performance of particular activities. Without such arrangements, activities could not be accomplished. In the following section, for example, I shall explicate how the accomplishment of searching in libraries is essentially tied to mundane arrangements of the building; arrangements which search activities in physical libraries *rely upon* for their accomplishment.¹ Prior to that, however, it might be said that the intelligible character of spatial arrangements consists of four interrelated and generic features:

- ❑ One, spatial arrangements are manifestly visible or observable arrangements.
- ❑ Two, spatial arrangements are constructed for their visibility.
- ❑ Three, spatial arrangements are public and widely or commonly known.
- ❑ And four, spatial arrangements are paired with interactional competences for their use.

The visibility or observability of spatial arrangements is a precondition of their sociality. For the ordinary member of society matters to do with spatiality - walking, shopping, displaying intimacy, driving, finding the bathroom etc. - are not deep mysteries only open to adepts, but practical matters consisting of ‘what anyone knows’ about the organisation of the world in which they live. That is, the ordinary, spatially distributed world *of* members is an intelligible world *for* members; a world that is encountered as recognisable, observable, reportable, publicly available and accountable, a world in which spatial arrangements exhibit a *mutual* intelligibility. Thus, in everyday life we can recognise places where we can catch buses or trains, places where we can eat, places where we can report crime, buy groceries, go without invitation, drive, not drive (etc.), and perform a huge variety of social activities with which a sense of space

¹ This is not to say that things could not be otherwise but insofar as they may be then it is terms of different material arrangements and different activities. The shift from card catalogues to online catalogues furnishes one example. The emergence of digital libraries another.

and spatial arrangement is intimately connected, and interwoven, as a readable feature of the settings those arrangements make observable.

By 'readable' I do not mean that in everyday life we treat space and place as a 'post-modern' text whose arrangements are inscribed so as to allow a multiplicity of interpretations.² On the contrary, I refer to a stable, enduring and obdurate (though not immutable) world of spatial arrangements, the meaning of which is known in common by members. By 'readable' I refer to a world of common understandings then, which provide for a reciprocity of perspectives. That is, for the achievement of an intersubjective or socially shared point of view providing for the orderly accomplishment of practical activities. Under the auspices of a reciprocity of perspectives members adopt the stance that the arrangement of space 'as I see it' as a practitioner – as someone embedded in the doing of an activity - is the same 'as others see it' for practical purposes in this setting here and now (Schutz, 1967). This reciprocity of perspectives is an integral feature of the social organisation of space and one engendered through the use of spatial arrangements. Take, for example, 'driving in traffic'. Driving in traffic trades on the presupposition of a world of meanings known in common. On members knowing which lane to drive in when going in a particular direction. On knowing which way to traverse roundabouts. On knowing that signs indicate such things as speed limits, hazards, directions, and the rest. On knowing that traffic lights are signals that convey instructions which have to be obeyed if sanction (not to mention accident) is to be avoided. On knowing that flashing lights on cars indicate the direction in which drivers intend to turn. On knowing that other lights on cars are brake lights, and so on. The 'world' of driving in traffic, like any other situated activity in the real-world, consists of common understandings of spatial arrangements, understandings which are embodied in practices for the performance of the activities that take place 'within' the space. The point to appreciate here is that space and spatial arrangements are implicated in interaction through socially shared practices providing for the orderly production and accomplishment of situated activities. Spaces and spatial arrangements are known in common and essentially tied to situated activities through observable practices for their production and accomplishment.

3. Space and place in practice: searching in the library

So what does all this amount to? Well let's consider a practical example of practical conduct, namely searching in the library – a familiar if not quotidian event for a great many people (and let's bear in mind the vernacular conception of space and place as we do so). The following sequence of action is preceded, as a great many searches are preceded, by an Online Public Access Catalogue (OPAC) search. OPAC's are employed in the accomplishment of a variety of activities and amongst various arrangements of cooperation, from isolated user searches, to user collaboration in topic-based searches, to service desk collaborations in formulating the identity of the information requirement, to specialist work with subject librarians (Crabtree *et al.*, 1997; Twidale *et al.*, 1997; Crabtree, 1999). In this case, OPAC is employed to establish the presence and availability of a particular 'known' item (*The Creative Imagination* by the author James Engell) in the physical catalogue and to establish its exact location. The item's location is furnished by 'classmark' which acts, and is employed, as a 'navigational signpost'.

² Though naturally it is possible to make mistakes, to misunderstand things. That is not to produce an alternate (and equally valid) interpretation of things however – simply to misunderstand them.

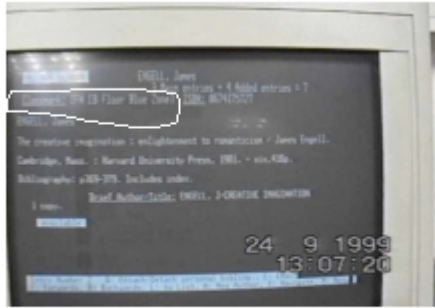


Figure 1. OPAC as a navigational device:
Item classmark circled - "Classmark IFN [B Floor Blue Zone]"

The classmark furnished by OPAC assigns the search item to a distinct class of items – items grouped together under the classmark IFN. The practitioner knows this – knows that items are grouped together and that in order to find a particular item, he or she must first establish the identity of, and locate, the class or group.³ Additional information ‘tells’ the practitioner where the IFN group is ‘within’ the library: ‘B Floor – Blue Zone’. This information ‘directs’ the practitioner to a particular point in space where the group may be found. It may be that the practitioner is provided with the classmark by others (on a reading list, for example) or, alternately, is familiar with the library ‘layout’, knowing ‘just where’ particular classes of items are located. However established, whether through reading list, OPAC use or passing familiarity, with knowledge of ‘just where’ the required class is in-hand so to speak, the practitioner may proceed to find and retrieve the required item.

Fieldnote extract.

Phil: time to go hunting eh

Sarah: uh uh

Sarah and Phil leave OPAC and make their way to B Floor. At the entrance to B Floor they encounter the following artefacts: a floor-plan, displaying various zones and associated topics (e.g. Blue Zone – Psychology); on the left door a poster listing classmarks and associated topics (e.g. A – AJ Philosophy, AM – AX Mathematics, U – Engineering and Technology, etc.) – the poster instructs the reader to “turn left” for listed classmarks; on the right door a poster listing classmarks and associated topics – the poster instructs the reader to “turn right” for listed classmarks.



Figure 2. The entrance to B Floor: floor-plan displaying zones and topics; posters instructing reader in direction to particular classmark

Sarah wants the IFN classmark and reads the floor-plan to see where it is - sees that the classmark I is associated with the Blue Zone. She then reads the classmark posters, only I (not IFN) is listed, and turns right as instructed. On entering B Floor, Sarah orients to generic catalogue signs hung above the walkway. She employs these to navigate the physical space and identify the area ‘within’ which

³ Novices are instructed by other practitioners or library staff in this orientation to, and organisation of, searching’s accomplishment.

the IFN classmark is located. Following the signs, Sarah locates the 'I' section of the physical catalogue.

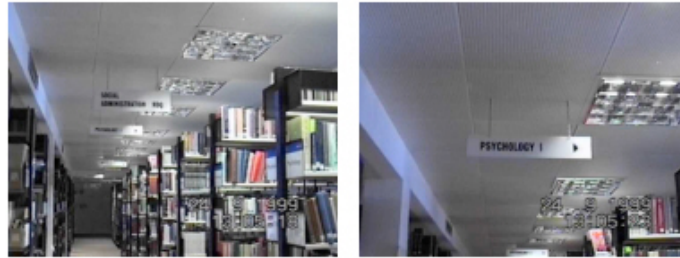


Figure 3. Generic classmark signs are employed to navigate the physical space: the signs indicate "just what" classmarks are "just here"

Phil: what are we after
Sarah: Engell's
Phil: what is it
Sarah: I .
Phil: IFN

Sarah and Phil locate the IFN section by orienting to, and scanning, the content lists displayed on the end of the shelves.



Figure 4. Locating the IFN classmark section: employing shelf content lists

The content lists, list the classmarks stored on "just these" shelves. The lists instruct the reader which classmarks are located "just here". For example, IFK – Thinking, IFN – Intelligence, IFR – Personality, etc. The lists are alphabetically ordered and by scanning them Sarah quickly establishes "just where" the IFN section is located. She then begins to scan the shelves containing, amongst other things, the IFN classmark. In scanning the shelves, Sarah orients to the classmark displayed on each item (on the white label at the bottom of each book's spine). In this way, she "narrows down" the search and locates the IFN section.



Figure 5. Scanning the shelves: locating the classmark section by following the alphabetical order of items (e.g. IFF, IFG, IFH, IFK, IFM, IFN)

Sarah: IFN
Phil: who's the one
Sarah: its er . Engell
Phil: Engell
Sarah: it's supposed to be here (inaudible)

Sarah is scanning the books in the IFN section. In doing so, she orients to the alphabetical ordering of the books by author's last name (e.g. IFN – Adams, IFN – Cairn, IFN – Duvall & Scott, IFN – Emerson, IFN – Engell).

Sarah: here it is
Phil: right

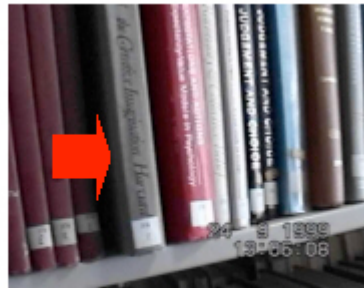


Figure 6. Finding the item: scanning the classmark section by alphabetical ordering of author's last name

Although Sarah has located the item she has searched for, notably, her search does not end at this point. Having retrieved the item, she browses the other co-located items, looking for other items that “sound interesting”. In the course of browsing, she takes books off the shelf and “flips” through them, examining indexes, chapter titles, and sub-titles. In this way, she retrieves another two books and, rather than leave B-Floor, goes over to a nearby reading desk. Here she reads “interesting” parts of the serendipitously retrieved items. She writes short verbatim quotes down on a notepad, and references. She then returns to OPAC and issues searches on the referenced items. On viewing the bibliographic details of the search items on OPAC, she “jots down” the classmark and zone. Thus, as above, her search proceeds (Crabtree *et al.*, to appear).

4. Space and place in practice: emergent features

In observing the practical accomplishment of searching in the library it is manifestly and unquestionably clear that space and place do not simply ‘contain’ activities, as it were, but are irredeemably implicated in the organisation and accomplishment of activities, and implicated in some rather interesting and largely ignored ways. In the first instance, space and spatial arrangements are implicated in technology usage – technology is not separate from the organisation of space and place but *in the course of its use*, in the doing of situated activities, thoroughly implicated as a feature of that organisation (Hughes *et al.*, 1988; Hughes *et al.*, 1992). In identifying the presence and availability of a particular item within the physical catalogue, for example, OPAC is employed to establish the precise area location of the object in the physical space. Precise area location is established through social practices of technology usage. 1) The classmark is ‘read’ as a locational device ‘telling’ the practitioner ‘just which’ collection of items the search object is grouped with. 2) The classmark is associated with a spatial marker which tells the practitioner ‘just what’ area to go in the physical space (e.g. B Floor). 3) The spatial marker is paired with a zone indicator ‘telling’ the practitioner ‘just where’ the required collection of objects is located in the search area (e.g. the Blue Zone). As this example makes perspicuous, the relationship between space and technology *is a practiced one* and those practices, whatever they may be, comprise the social organisation of the activity in question. ‘Just how’ the organisation of space is implicated through technology usage in the accomplishment of situated

activities is a matter for occasioned inquiry – something to be explicated by the investigator within the setting of interest.

Space is, perhaps, more tangibly implicated in the accomplishment of situated activities through the use of floor-plans, signs, lists, and the rest. Like technology usage, space and place is here implicated in practiced ways however. In the case of the library, although the practitioner knows ‘just where’ to go, he or she has to get there. Where is B Floor? Where is the Blue Zone? How do I get to the IFN classmark? These issues are often resolved through the use of perspicuously and relevantly placed artefacts providing instruction for the resolution of these practical troubles. Thus, floor-plans displaying zones are placed at entrances, as are posters displaying area contents and giving direction to them. Again, we see a practiced use of artefacts in which the organisation of the space or place is thoroughly implicated. Furthermore, we see the interactional competences comprising the practiced use of spatially situated artefacts. The floor-plan is not read as any plan but as plan of *this* area, for example. The directions, directions to these places from *here*. From a practitioners’ perspective, there is an abiding *relevance* to the placement of artefacts within which space and place are implicated *and* constituted. Furthermore, placed artefacts are taken to be artefacts for a purpose, artefacts tied through interactional competences for their use to the accomplishment of the activities that routinely take place ‘within’ the space.

The notion of interactional competence is perhaps made more intelligible through consideration of the use of signs. Having established a sense of which way to go in order to locate the Blue Zone - through the use of a floor-plan and / or content poster instructing the practitioner to turn right, for example - the practitioner orients to clearly visible catalogue signs displayed above the walkway he or she finds him or herself walking down having entered the floor and turned right. The practitioner knows that these signs will ‘point out’ the classmark area he or she is looking for. Similarly, on having followed the signs and located the Blue Zone, he or she knows that content lists displayed on the ends of the shelves in the area ‘point out’ where the IFN classmark is located. Interactional competence shifts now from following signs to reading lists. The reading is a practiced reading – the lists are not organised randomly but by alphabetical order and the practitioner scans them accordingly thereby locating the required classmark. Interactional competences of reading (which vary in their organisation across various cultures) are drawn upon to locate the required item from amongst a large collection. Again, alphabetical ordering is employed to narrow the search down and, having thus located the IFN section, the competence shifts again to one of narrowing down through the alphabetical ordering of author name. In these and other ways not documented here the search for an item is accomplished. Whether searching for a known item, or serendipitously, these *embodied practices* and *interactional competences* comprise (some of) the family members whereby searching is socially organised in real-time – comprise the ways in which activities are socially ‘structured’ in the real-world. It is a structuring of activities within which space and place is irredeemably implicated *in interaction* and upon which the success of the endeavour turns.

5. The social organisation of space and place: material equipment, embodied practice, and interactional competence

Vernacular understandings of the social organisation (or social structuring) of space and place underpin a great many theoretical understandings (e.g. Foucault, 1977; Soja, 1989; Hirsch & O’Hanlon, 1995). Indeed it might be said that social theory ‘trades on’ the vernacular (Coulter, 1982) - trades on ordinary understandings of space and place. While accepting vernacular understandings for vernacular purposes, the issue becomes rather more problematic in the attempt to develop a *sociological* appreciation of the organisation of space and place. On the one hand, and as we have seen, vernacular understandings fail to convey an adequate sense of the ways in which space and place are actually implicated in our ordinary lives. On the other hand, there is ‘no time out’ from the vernacular – try as we may, we cannot step outside of ordinary life (Sharrock & Anderson, 1991) if for no other reason than that our everyday understandings constitute the background against which all else is made sense of and judged (even science).⁴

⁴ As Schegloff (1992) describes matters: ‘Sacks once recounted a story which provides some insight into the appeal which Garfinkel’s work must have had for him when he later encountered it. He was engaged in a discussion with several other law school students arguing through some problem in case law which they had been set - a problem in torts, if I remember correctly. The issue was whether or not a person on the

Consequently, space is construed as an 'arena', a 'container', a 'panoptican' arrangement of place. What, then, are we to do in order to explicate and at the same time transcend the vernacular?

In trading on the vernacular, social theory treats common sense conceptions embodied in ordinary action as *resources* for theorising (Zimmerman & Pollner, 1973). An alternative to this course of action, and one outlined above, would be to treat our ordinary, everyday sense of space and place as a *topic* for inquiry. This shift in focus requires us to examine in detail the ways in which we 'go about' performing and accomplishing situated activities. As activities are, without exception, always embedded 'within' space, are always spatially situated, explication of the ways in which situated activities observably 'get done' promises to tell us much about the social organisation of space and place. The effort need not be an undirected one either but in concentrating on the real-world, real-time *performance* of activities, focus expressly on 1) the embodied practices for the accomplishment of situated activities and 2) the interactional competences employed in the use of spatial arrangements and technological instruments (i.e. material arrangements of equipment).

Space and material arrangements of equipment are implicated in the organisation of practical matters in and through embodied practices and ordinary interactional competences for the accomplishment of situated activities. Yet 'just what' embodied practices and competences consist of in any particular space or place is matter for empirical study (as they cannot be explicated through theorising the matter). The effort must proceed, then, by naturalistic or ethnographic inquiry (Blumer, 1967; Prus, 1996), describing faithfully 'just what' it is that people do in particular settings and, description in-hand, through careful explication of the 'methodic' ways in which people conduct their activities and employ any particular space's equipment as a matter of course in the doing (Garfinkel & Wieder, 1992; Garfinkel, 1996). To this it might be added that as the performance of situated activities *relies upon* the practiced and competent use of material arrangements, and as there is a distinct uniqueness to materially embodied spaces (hence our being able to distinguish bus stations from supermarkets, golf courses from football pitches), that many of the arrangements, practices and competences explicated will also be unique, tied essentially to the particular settings 'within' which they are located (to bus stations, supermarkets, golf courses, football pitches, and the rest). Material arrangements of space and place, and embodied practices and competences for their use, are unique precisely because space is not simply a container for action but organised in, through, and for the accomplishment of action (for catching buses, doing shopping, playing golf, watching football, etc.) and organised in the most ordinary and as yet unnoticed ways.

Why is the unnoticed important? Well I would want to say that is not just important but of *primordial* importance in that, and precisely because, it is within the practical actions that

ground was entitled to recover damages incurred from the overflight of his property by an airplane. At one point, in a kind of mimicry of the 'how many hairs make a bald man' paradox, the students coped with the argument that no damages could be collected if the plane was being piloted in a proper and accepted manner by seeing how far they could press the definition of what was 'proper'. What if it were flying at 2,000 feet? At 1,000 feet? At 250 feet? At 5 feet? Sacks reported that when the last of these proposals was offered, it was **dismissed as 'unreasonable'**, as frivolous, as **violating the canons of 'common sense'**. But, he pointed out, that could as well have been said about the penultimate one, but wasn't. What struck him, then, and puzzled him, was that the 'legal reasoning' which was the much heralded instrument in whose use they were being trained rested on, and was constrained by, an infrastructure of so-called 'common sense' which was entirely tacit and beyond the reach of argument, while controlling it.' (Schegloff, 1992: xiii emphasis added). Scientific reasoning, particularly social science reasoning, is constrained by common sense just as legal reasoning is constrained by common sense. If social science accounts are not to be dismissed they must be available to common sense reasoning. Ultimately, it is common sense reasoning that accords such accounts their 'validity' (Schutz, 1964; Schutz, 1962).

constitute our mundane reality that the one and only real world, the one given through perception, the one and only one that is experienced, is inherently organised or structured. This mundane reality is disattended to as a matter of course by the social sciences – they talk *about* it (as resource) but not *of* it (as topic) (Garfinkel *et al.*, 1981; Pollner, 1987) – indeed mundane reality is substituted for a world of abstract, independent Galilean structures (Husserl, 1999). Independent Galilean structures - what do I mean? An example of Husserl's: in his critique of modern science, Husserl's primary topic was that of Galileo's mathematisation of the natural world through *the construction of* abstract Euclidean forms. Thus, and for example, the curvilinear pathway of a projectile, as represented in Figure 7., was for Galileo, a graphic expression of a natural law in nature (Lynch, 1993).

Husserl does not question the facticity of the matter but he does challenge the genealogy of natural laws. On a Galilean view of things, the natural laws which structure nature exist 'out there' objectively and independently of any 'methods' we may have for their discovery. On Husserl's view, the existence of independent Galilean structures presupposes a 'forgotten genealogy' of phenomenal elements: practical actions, equipment, measures, and analyses. Notably, and as Lynch (1993) describes matters

Only after the phenomenal elements .. are stabilised through a disciplined and repetitive praxis does the mathematical law become apparent as what was always the case for projectiles and analogous material phenomena. (Lynch, 1993: 119)

Thus, it is through embodied courses of practical action that independent Galilean structures come to have an *objective* existence (Garfinkel *et al.*, 1981). In the course of objectifying those structures (of establishing their independence) however, the sciences (both natural and social) divorce those structures from the practical actions which *make them available* as objective phenomena (*ibid.*). This is just what we see with the treatment of space and place. In and as the course of composing 'scientific' accounts, common sense understandings of space and place are objectified such that spaces and places are construed as external structures containing and constraining action. The phenomenal elements – practical actions, equipment, embodied practices, and interactional competences – in and through which spaces and places are observably organised and made available as objective structures containing and constraining action pass by unnoticed on such accounts. There is, then, something primordial 'missing' from social science treatments of space and place. Namely the 'primal layer' of embodied phenomenal elements (Merleau-Ponty, 1962) through which space and place are produced and recognised as objective structures of an objective world *in and as of the practical actions of members*. Therein lies the inherent social structure of the real world and the inter-disciplinary significance of the unnoticed.

Acknowledgements

This research was funded by the European Network for Intelligent Interfaces (<http://www.i3net.org/>), Esprit Long Term Research Project 25377: eSCAPE (<http://escape.lancs.ac.uk/>).

References

- Blumer, H. (1967) *Symbolic Interactionism: Perspective and Method*, Los Angeles: University of California Press.
- Crabtree, A., Twidale, M., O'Brien, J., Nichols, D.M. (1997) Talking in the Library: Implications for the Design of Digital Libraries, *Proceedings of the 2nd International Conference of ACM Digital Libraries*, 221-228, Philadelphia: ACM Press.

- Crabtree, A., Hughes, J.A., O'Brien, J., Rodden, T. (1999) On the social organisation of space and design of electronic landscapes, *Proceedings of the 11th Biennial Conference of the Society for Philosophy and Technology*, July 14th-17th, San Jose State University, Silicon Valley, California.
- Crabtree, A. (1999) Understanding Searching as a Socially Organised Achievement in the Library, *The library abstract eSCAPE demonstrator*, eSCAPE Deliverable 4.1, Esprit Long Term Research Project 25377, Lancaster University, United Kingdom: Computing Department.
- Crabtree, A. Nichols, D.M., O'Brien, J., Rouncefield, M., Twidale, M. (to appear) Ethnomethodologically Informed Ethnography in Information Systems Design, *Journal of the American Society for Information Science*, New York: John Wiley & Sons.
- Coulter, J. (1982) Remarks on the Conceptualisation of Social Structure, *Philosophy of the Social Sciences*, 12 (1), 33-46.
- Foucault, M. (1977) *Discipline and Punishment: The Birth of the Prison*, London: Allen Lane.
- Garfinkel, H. (1967) *Studies in Ethnomethodology*, Englewood Cliffs, New Jersey: Prentice-Hall.
- Garfinkel, H., Lynch, M., Livingstone, E. (1981) The Work of a Discovering Science Construed with Materials from the Optically Discovered Pulsar, *Philosophy of the Social Sciences*, vol. 11, 131-158.
- Garfinkel, H. & Wieder, D.L. (1992) Two Incommensurable, Asymmetrically Alternate Technologies of Social Analysis, *Text in Context: Contributions to Ethnomethodology* (eds. Watson, G. & Seiler, S.M.), New York: Sage.
- Garfinkel, H. (1996) Ethnomethodology's Programme, *Social Psychology Quarterly*, 59 (1), 5-21.
- Goffman, I. (1961) *Asylums*, New York: Doubleday & Co.
- Hirsch, E. & O'Hanlon, M. (eds.) (1995) *The Anthropology of Landscape: Perspectives on Place and Space*, Oxford: Clarendon.
- Hughes, J.A., Shapiro, D., Sharrock, W., Anderson, R. (1988) *The Automation of Air Traffic Control*, SERC / ESRC Grant No. GR/D/86157, Lancaster University, United Kingdom: Sociology Department.
- Hughes, J.A., Randall, D., Shapiro, D. (1992) Faltering from Ethnography to Design, *Proceedings of the 1992 ACM Conference on Computer Supported Cooperative Work*, 115-122, Toronto: ACM Press.
- Hughes, J. & O'Brien, J. (1998) The Social Organisation of Space, *Presence and Representation in Multi-Media Art and Electronic Landscapes*, eSCAPE Deliverable 1.1, Esprit Long Term Research Project 25377, 5-24, Lancaster University, United Kingdom: Computing Department.
- Hughes, J.A., Crabtree, A., Rodden, T. (1999) *Towards a common methodology*, eSCAPE Deliverable 4.0, Esprit Long Term Research Project 25377, Lancaster University, United Kingdom: Computing Department.
- Husserl, E. (1999) *The Crisis of European Sciences and Transcendental Phenomenology*, Evanston, Illinois: Northwestern University Press.

- Lee, J.R.E. & Watson, D.R. (1991) *Interim report on the use of public space in urban areas*, unpublished manuscript, Victoria University of Manchester, United Kingdom: Department of Sociology.
- Lynch, M. (1993) Phenomenology and Protoethnology, *Scientific Practice and Ordinary Action: Ethnomethodological and Social Studies of Science*, 117-158, Cambridge: Cambridge University Press.
- Merleau-Ponty, M. (1962) *Phenomenology of Perception*, Evanston, Illinois: Northwestern University Press.
- Park, R.E. (1926) The urban community as spatial pattern and a moral order, *The Urban Community* (ed. Burgess, E.W.), Chicago: Chicago University Press.
- Pollner, M. (1987) *Mundane Reason: Reality in Everyday and Sociological Discourse*, Cambridge: Cambridge University Press.
- Prus, R. (1996) *Symbolic Interaction and Ethnographic Research: Intersubjectivity and the Study of Lived Human Experience*, New York: State University of New York Press.
- Schegloff, E. (1992) Introduction, *Harvey Sacks' Lectures on Conversation* (ed. Jefferson, G.), Oxford: Blackwell.
- Schutz, A. (1962) Common Sense and Scientific Interpretation, *Collected Papers* (Volume I), 3-47, The Hague: Martinus Nijhoff.
- Schutz, A. (1964) The Problem of Rationality in the Social World, *Collected Papers* (Volume II), 64-90, The Hague: Martinus Nijhoff.
- Schutz, A. (1967) *The Phenomenology of the Social World*, Evanston, Illinois: Northwestern University Press.
- Sharrock, W. & Anderson, R.J. (1991) Epistemology: professional scepticism, *Ethnomethodology and the Human Sciences*, 51-76, Cambridge: Cambridge University Press.
- Soja, E.W. (1989) *Postmodern Geographies: The Reassertion of Space in Critical Social Theory*, London: Verso.
- Sudnow, D. (1972) Temporal parameters of interpersonal observation, *Studies in Social Interaction*, New York: Free Press.
- Twidale, M., Chaplin, D., Crabtree, A., O'Brien J., Nichols, D.M., Rouncefield, M. (1997) *Collaboration in Physical and Digital Libraries*, British Library Research and Innovation Report No. 64, British Library Research and Innovation Centre, London, United Kingdom: The British Library.
- Zimmerman, D.H. & Pollner, M. (1973) The Everyday World as Phenomenon, *Understanding Everyday Life: Towards the Reconstruction of Sociological Knowledge* (ed. Douglas, J.D.), 80-104, New York: Routledge & Kegan Paul.

