

MAPS AND LANDSCAPES OF POWER : REPRESENTING THE ENVIRONMENTAL VALUES OF PEOPLE WITH PHYSICAL DISABILITIES.

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Abstract

This paper explores the significance of incorporating the environmental values of individuals with *physical disabilities* into *access and mobility maps*. It addresses the power of maps and their role in the political discourse of disability. The paper focuses on the results of two research projects which were designed to explore images of city and countryside, carried out during 1994-1995.

1 Introduction

Cultural landscapes send varying *messages* to those who encounter them, and the manner in which they are *read* forms the basis of an individual's *personal geography*. People may also be regarded as *active agents*, imparting *meaning* to landscapes through their interactions with them.

Although each person's personal geography, or *mental map*, will differ (the product of different experiences, memory and imagination), people with shared circumstances (transactional activities) are likely to have similar group images and values of place/space. Hence, people with *mobility problems* are liable to possess similar mental maps, and may share environmental feelings (eg. hostility, frustration) [1].

This paper focuses on two recent studies of the environmental values of people with mobility impairment¹. These studies extend the work of the *Coventry Access and Mobility Mapping Project* (CAMMP1) [2]. CAMMP1 focused on people with disabilities as *map-makers*, rather than as passive recipients of maps created by 'professionals'; the user group is cast as 'expert' in this scenario. An interactive and empathic methodology for surveying urban environments was developed [3], although CAMMP1 stopped short of involving the user group in the creation of formal cartographic representations of the cityscape. These studies are grounded in the view that *all maps can be regarded as rhetorical texts*, shaped by the values and ideological position of their authors [4]. Hence, there exists a need to develop maps which express fully the *deeply held environmental values* of people with physical disabilities, a group which has often been neglected in the planning and management of urban and rural landscapes.

2 (Im)personal cartographies?

If maps are created without seeking first to understand the values and meanings attributed to the environment by people with mobility impairment, the maps will be imbued with the values of their

¹The research discussed in this paper is largely concerned with mobility and access issues linked to motor disabilities. The field of visual impairment and tactile maps is not discussed. Most of the people involved in the studies were wheelchair users.

authors rather than those of the user group. The user group's *personal geographies* must be acknowledged and should be used to provide valuable information; such as valued features, frustrations at barriers and constraints, and the *lack of knowledge* of inaccessible environments.

The source of most local environmental knowledge is an individual's own direct experience. A person's *environmental knowing* will depend not only on the physical attributes of place, but on individual predispositions, on frequency and type of experience, on the purpose of activities and on levels of aptitude and performance. Images of place, which evolve over time, shape our personal geographies. Although each person's cognitive map will differ in detail, studies suggest that people from similar backgrounds or with similar transactional activities will share group images of place [5].

The social characteristics of people with mobility problems often determines place behaviour and place learning and these combine to generate different environmental needs. They will also generate encounters with places which are different in type, content and intensity to those of other groups; their impressions of place will differ, and their conception of environmental difficulty will often go unnoticed by those who do not share their problems [6].

The environmental needs of people with physical disabilities are frequently ignored when landscapes are altered by planners and developers. Maps are an integral part of the process of landscape evolution, therefore, cartographic representations must incorporate collective images of place derived from the *personal cartographies* of people with mobility impairment.

3 Mapping landscapes of power

J. B. Harley [4,7] points to the need to understand the *cultural milieu* in which each map is created. Rather than regarding maps as the product of a value-free, scientific discipline, he argues that they are rhetorical texts; presenting an argument about the way the world is; from a particular viewpoint. Maps, he claims, "*are always caught up in wider political concerns*" [4,p.1].

Authorship confers power on the author or the commissioning agency through the social construction of environment values and meanings. "*Once embedded in the published text the lines on the map acquire an authority that may be hard to dislodge. Maps are authoritarian images.*" [4,p.16]. Maps tend to promote and legitimise the status quo, rarely acting as instruments of radical change. In either instance the map is never neutral; "*Where it seems to be neutral it is the sly 'rhetoric of neutrality' that is trying to persuade us.*" [4, p.16]. Harley also distinguishes between *external* and *internal* forms of power. External power is exerted on cartography and exercised through cartography by the author. Internal power refers to way in which cartography *imposes order* on the complexities of the phenomenal environment.

In the case of 'official' access and mobility maps, the power of the cartography often acts to reinforce the *status quo* rather than challenge the *disabling* nature of cultural landscapes. The two forms of power can be seen to operate in most urban access and mobility maps [3]. The external form is applied in terms of content; most are 'good news' maps, declaring the facilities available, but remaining stubbornly *silent* concerning constraints and barriers to mobility. What information is provided may also be misleading, for example, 'pedestrian areas' are often shown as a *facility*, yet these may not be unconditionally favourable environments for people with disabilities [8]. The internal form is seen in the generalisation of features; the simplification and ordering of geographical space to provide an impression of accessibility. This is a sanitised image of the cityscape and reinforces the political *status quo*.

4 Mapping with empathy

It is unlikely that 'official' maps are deliberately devised to be misleading, however, *cartographic silences* reinforce *political or 'power' silences* in the discourse of disability. All access and mobility maps are political statements within this discourse. This, however, should not be seen as problematic, but an opportunity through which people with mobility problems can, by taking greater control of the mapping process, express their concerns and frustrations [6]. In this way they become active participants in the '*social constructionist game*', promoting alternative images of their status and situation [9].

Only a limited number of attempts have yet been made to encourage people with disabilities to take greater control of the mapping process. One successful example is the work of *Pauline Hephaistos Survey Projects* (PHSP). This organisation, working directly with people with disabilities, has produced maps of a number of cityscapes [10]. They stress the need to equip individuals with *detailed empirical information* to facilitate *objective* decision making, rather than presenting simplistic judgemental statements concerning some contrived notion of 'accessibility' [11].

The Coventry project (CAMMP1) used similar methods to survey empirical information (eg. location of barriers), but also used the results of a questionnaire survey to take into account *attitudes* to factors affecting movement in space (eg. surface conditions, crowding). The results were used to create generalised *mobility indices*. These indices were used to provide a synoptic cartographic overview of the cityscape [3]. CAMMP1, unlike PHSP, recognised the importance of incorporating the qualitative evaluation of environmental encounters into the production of maps. The overt expression of environmental values was regarded as critical to using cartography as an empowering and politically transparent process.

The experience of CAMMP1 suggested that the act of map-making by people with mobility impairment might have two important consequences. First, it might be used to develop more expressive and effective access maps and guides. And secondly, it would be a political act in itself, providing an overt expression of the environmental values of the maps' makers. These factors inform the two subsequent pilot projects; the '*Cambridge Access and Mobility Mapping Project*' (CAMMP2), and the Nene countryside access project.

5 CAMMP2: Mapping the cityscape

CAMMP2 differs from CAMMP1 in being primarily concerned with the graphic representation of environmental values rather than an accurate survey of a cityscape. Each of the four participants (all wheelchair users and students at Anglia Polytechnic University) worked with a helper to create a large *free-form map* of the Cambridge cityscape.

The initial meetings of the CAMMP2 pilot project were used to develop an empathic relationship between the wheelchair user and her/his helper. This involved 'brainstorming' and cognitive mapping exercises similar to those used in CAMMP1 [2]. These exercises provided important data concerning the environmental transactions of the participants. The teams then undertook a day long '*environmental exploration*' (this technique is dealt with in detail elsewhere [2]) of the retail/commercial and historic core of Cambridge. This formed the basis for subsequent work on the free-form maps.

The creation of free-form maps is regarded as a significant act in itself, providing an opportunity for

the individual to express their environmental needs, values and frustrations. The concept has close associations with the philosophical foundation of Common Ground's Parish Maps Project². Common Ground encourages map-making as a *celebration of place*; a graphic representation of the values attributed to the everyday, lived-in environment. This form of map-making is also promoted as a political act through which local groups make their feelings about their 'parish'³ known to planners, developers and others who have the power to change their environment [12,13].

Participants in CAMMP2 were each provided with a large wall mounted map (approximate scale 1:1000) of Cambridge, showing only roads and the river Cam. This formed the basis for the free-form map. Participants were given complete freedom to create their own visual representation of the cityscape. A wide variety of artist's materials were made available to the teams. They were also encouraged to use photographs taken during the 'exploration' (each team had been provided with a camera and a large quantity of film).

The resultant maps provide two important insights into the process and application of free-form mapping. One relates to the process of map-making itself, and the other to the visual representation of the relationship between the individual and the so-called 'able-bodied'.

5.1 Living in map-immersed world?

Despite being encouraged to express freely their environmental values, the participants tended to produce extremely formal cartographic representations. This may partly reflect the personality of the individuals involved, but it is likely that it resulted from unaccustomed work in creative visual media. The research team deliberately avoided 'leading' the participants into particular forms of representation, however, it is clear that future work will need to incorporate priming exercises (eg. collage/montage work) that encourage creative expression. Their lack of training in cartography may also encourage them to resort to well known map forms.

The results also demonstrate the power of traditional cartographic conventions to suppress alternative forms. Perception of mapping as a highly formalised activity seems to have had a major impact, as well as their socialisation and experience of other (published) maps. The participants agreed (during debriefing) that they found it very difficult to disengage from conventional forms of map symbolisation. This tended to confine their attempts at graphic representation to simple physical phenomena. Expression of environmental values and meanings was almost entirely restricted to verbal text and the use of photographs (see below). Even verbal text was treated in a formal manner by the two of the four teams; with one team using a word processor and a depersonalised writing style to enhance the 'authority' of their presentation. The use of colour also tended to conform to convention; significantly, the first act of each team was to colour the River Cam bright blue!

Wood refers to a state of "*being map-immersed in the world*" [14], by which he means that individuals (within western societies) are so surrounded by maps that they are no longer conscious of their impact on their lives. This 'immersion' may account for the inability of the participants to uncouple themselves from standard forms of mapping. The results of the project indicate a need to *subvert* accepted notions of cartography before free-form mapping can be used as an emancipating process.

²Common Ground is a UK based environmental organisation set up to promote cultural heritage by exploring practical and philosophical links with the arts.

³The word *parish* is used to express the concept of the locality to which a person belongs. There is no English equivalent to the German word *heimat* or the Welsh *bro*.

5.2 Ways of seeing and telling

The other notable characteristic of the free-form maps was the pivotal use made by all participants of photographs taken during the 'environmental exploration'. One team used only photographs and verbal (written) text; although the photographs were shaped and colour coded (bordered) to classify significant attributes of the cityscape.

Photographic images were used to express emotions such as disappointment and frustration, in some cases coupled with germane verbal text (eg. *'How the hell am I supposed to pass through here'*). The expression of values and meanings was achieved in two contrasting and significant ways. Most of the participants created an impression that they were *privileging* the map reader by allowing them to see the cityscape through their eyes. This created *authoritative* visions of the *disabling nature of the city*. This contrasted with one of the maps in which the wheelchair user is *exhibited* as 'victim'. This map was characterised by photographs taken of the wheelchair user from the eye level of a standing adult. Both forms provide potent insights into an aspect of the 'life-world' of the wheelchair user, however, the former is an empowering image, whilst the latter tends to reinforce stereotypes of the vulnerability of the (so-called) 'disabled'.

While it would be clearly impractical to make access maps which incorporate a large number of photographic images, however, their use in the free-form maps do function as clear indicators of meanings attributed to the cityscape. They provide an demonstration of the *intensity* of environmental encounters which need to be taken into account when producing practical guides and maps. More importantly, as political statements in themselves, they serve notice to those with the power to alter environments to make access maps redundant.

6 Countryside access: landscapes in flux

The countryside experienced by people with mobility impairment is often marred "*not by their disabilities but by an environment which has been modified by the able-bodied for the able-bodied*" [15]. The principal aims of the Nene countryside access project are to examine the meanings generated by these encounters and to suggest ways in which environmental needs may be met and sources of information (eg. access guides and maps) improved.

The study is distinguished by the use of in-depth interviews and discussions with small groups of wheelchair users. The advantages of 'group analysis' as a means of exploring environmental meanings and values have been amply demonstrated [16,17]. It provides enormous value for detailed qualitative research "*in which it is important to understand the complex, multifaceted, contextual nature of individual and collective experience*" [16, p.324]. In contrast, short interviews and once-only groups do not allow participants the time to explore their feelings, especially deeply held personal values. Two groups, consisting of four and five wheelchair users, provided a range of experiences of disability, and associated mobility problems. Four 1½ hour discussion sessions per group were punctuated by two organised visits to countryside sites. One group was taken to Dovedale (Peak District National Park) and Grafham Water (Cambridgeshire), while the other group visited Tideswell Dale (Peak District National Park) and Irchester Country Park (Northamptonshire).

Transcripts of the discussion groups provide the primary data for the study. The volume of material generated (some 50,000 words) by this in-depth method requires a great deal of time to interpret rigorously, but does provide a significant insight into the environmental encounters and values of the wheelchair users.

The transcripts showed clearly that the individuals involved found it very difficult to separate the negative aspects of countryside encounters (especially problems of access and mobility) from the positive attributes of visits. In spite of this, it is important to emphasise the positive experiences which are gained by such visits and the need to enhance the experience by opening up more varied environments to people with mobility problems. The importance of sensory pleasures; the sights, smells and sounds of the countryside, contact with nature through wildlife and plants, a sense of escape and solitude, and the importance of vistas were all reflected in the conversations.

6.1 *The problem of landscape dynamics*

One of the major themes to emerge from the discussion groups is the contingent nature of countryside encounters. This creates obvious problems for cartographic representation. While urban settings (despite a wide range of barriers and constraints) provide *relatively* stable environments, rural landscapes, even those managed for recreation, are liable to be *highly unpredictable* and therefore potentially unmapable in certain situations. Changing weather conditions, for instance, can have dramatic impacts on surface conditions affecting mobility. While specially designed (hard surface) recreational trails do exist (eg. *Wheelchair Walks in Kenilworth*, designed by Kent County Council), most routes in managed countryside landscapes are still largely unsurfaced or loosely gravelled, making access difficult and unpredictable for wheelchair users and others with mobility impairment.

Informal/temporary obstacles do exist in cityscapes (cars parked across drop kerbs, bicycles and advertising boards blocking pathways) however, the dense network of routeways means that they can usually be circumvented, especially if maps/guides provide clear indication of alternative (accessible) routes. Countryside routes, however, rarely have such alternatives. Public rights of way (footpaths, etc) tend to form relatively wide meshed networks, together with which any alternative routes (eg. rural roads) may be hostile environments for wheelchair users (eg. low visibility, fast moving vehicles).

A number of participants noted that even in country parks (and other 'managed' sites) so-called 'accessible' trails often ended abruptly for wheelchair users (eg. change from hard to soft path surfaces) and they would be forced to turn back and retrace their route. Designation does not necessarily mean accessibility. This type of information could more easily be incorporated into maps produced by users and would alert managers to the need to upgrade parts of their network and create genuinely accessible environments. The map advertises the lack of facility and is a high profile means of engendering change.

The need for clear information regarding surface conditions is an absolute requirement that emerges from the transcripts. Gravel paths, for example, are a major problem in many countryside settings, with problems of skidding and wheel-spin being exacerbated by wet conditions. Much of the concern about the unpredictability of countryside landscapes is linked to feelings of vulnerability. This is an issue for able-bodied people (eg. fear of being lost, injured), but is multiplied for people with mobility problems, who would have great difficulty in seeking help if alone.

6.2 *The 'official landscape'*

Many of the participants felt frustrated by the failure of countryside managers to meet the requirements of people with mobility impairment, as well as other groups with mobility problems (eg. families with pushchairs). One participant described a visit to Boddington reservoir where there was a signpost welcoming disabled visitors, shortly followed by a gate which precluded wheelchair users from going further. The participants believed that such examples result primarily from a lack of

appreciation of the real needs of wheelchair users:

"it hurts me mentally when I read of the thing 'wheelchair accessible' ... and you go there and see what they think is wheelchair accessible" (Group B/4, 731-5) "...it was 'wheelchair friendly'. You could push a wheelchair through it easily." "Provided there wasn't anybody in it." (Group B/4, 747-750).

This can lead to a culture of exclusion:

"I don't know of many places that are easy in the countryside for a wheelchair.

Not in depth, when you really want to go in. You can look, on the outside looking in, which is enjoyable to a certain extent, but actually wanting to get in there, into the vales and what not. It's not on." (Group A/2, 697-702)

There is clearly a greater need for interaction between those who manage sites and those who they claim to serve. Such interaction can provide valuable lessons:

"The park ranger took me round there when he was doing his report, you know, for the Parks Committee and he pushed me about, and afterwards -and he was a strong athletic lad - and he was worn out and shattered you know half way through Although prior to that he said 'I've pushed people about the park'... I worked it out afterwards. He'd pushed a 12 year old child around the park" (Group B/1, 142-148)

Sites which are advertised as 'accessible' are often regarded by wheelchair users as highly restrictive. Designation as accessible and the provision of very basic facilities and information (eg. maps and guides) are perceived as mere 'tokenism'. While the participants accept that much of the infrastructure of country parks and other sites has been in place for years, they do not accept that adaptations cannot be made to increase accessibility. Modifications can be made to blend in with existing features, for example, the use of the Dovsdale site (Peak District) is limited by lack of suitable wheelchair access across the River Dove. The participants are concerned that their needs should not 'spoil' the aesthetic experience of the site, but believe that alternative solutions can be found:

"A bridge up there by the stepping stones would spoil it, but a concrete path under the water, a couple of inches deep, that wouldn't be seen to spoil the view" (Group A/3,52-4).

There also emerged the issue of degree of disability and the importance of site design and information provision to take this into account. For example, slightly uneven or 'bumpy' surfaces may be manageable for some wheelchair users, but others, who have no ability to hold themselves upright, may find themselves being jarred and losing their balance and slipping down in their chairs. Map making can only be really effective if these needs are fully understood and this can only come from interaction with potential users.

These points provide further argument for the mapping of landscapes, not simply as information systems, but as a political artifacts which draw attention to the failure of provision for access. The transcripts suggest that maps produced by people with mobility impairment would offer a radically different vision of the countryside to official representations. Another important factor linked to cartographic representation is the lack of adequate signing and waymarking. This was seen as a major problem by a number of the participants.

Conclusion

The work of PHSP and the results of CAMMP1 show that people with impaired mobility can take a substantial part in the cartographic process. The recent pilot studies have taken this a step further and indicate that it may be possible to incorporate deeply held environmental values into the process and to use maps as a potential means of generating change. Access to the authorship of knowledge systems provides a step towards greater political empowerment.

The personal geographies of people with mobility impairment reveal conceptions of place which stand in sharp contrast to those of other users of the city and countryside landscapes. Geographers and cartographers can contribute significantly to removing barriers of understanding, leading to a greater awareness that *space*, unless carefully planned and managed, can disadvantage and disempower particular groups within society. However, this can only be done by interacting with this group.

Activities such as free-form mapping and small-group analysis can lead to enhanced understanding of these issues, and more importantly, reveal the intensity of meanings attributed to landscapes. Such understanding can provide an important foundation from which to build a more *emancipatory and empowering cartography*. It can also start to break down a sense of exclusion which is felt by many people with mobility impairment.

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