

# Improving the language of electronic dialogue in participatory projects.

**Michael Mullins**

School of Architecture, Planning and Housing  
Architecture Programme  
University of Natal  
Durban, South Africa  
mullins@nu.ac.za

**Steen Holmgren**

Department of Human Settlements  
Kunstakademiets Arkitektsskole Copenhagen  
Philip de Langes Alle  
Copenhagen, Denmark  
steho@get2net.dk

## **ABSTRACT**

Residents affected by urban interventions and development projects have in South Africa's recent history, frequently challenged the legitimacy of development decisions. In a South African context, the process of intervention is itself often a primary factor in rediscovering social, cultural and spatial identity. A subsequent polarization between the professionals' and publics' roles is detrimental to the participatory process. Formative communication between participants, for example architects, residents and planning authorities, contributes to consensual decision-making, empowerment of residents, and a sustainable improvement of living environments. The objective of relating architectural design to context therefore invites a closer inquiry into the nature of the residents' everyday experience of their environment, that is to say the identity of place, and consequently into the nature of emerging information and communication tools used in that inquiry. This paper looks at examples of participatory projects where digital information and communication tools have been used and indicates areas of current and future research to improve the dialogue between 'experts' and 'users'.

## **Keywords**

Community Participation, Dialogue Methods, Virtual Representation.

## **INTRODUCTION**

Residents affected by urban interventions and development projects have in South Africa's recent history frequently challenged the legitimacy of development decisions. In a South African context, the process of intervention is itself often a primary factor in rediscovering social, cultural and spatial identity. Manuel Castells' description of 'project identity' in his analysis of social opposition may be aptly applied to this phenomenon: "when social actors, on the basis of whichever cultural materials are available to them,

build a new identity that redefines their position in society and, by so doing, seek the transformation of overall social structure" [1]. The need for identity through community and the importance of cultural history in building a social environment has been well established, and project identity may be interpreted as explicit attempts at creating and empowering a sense of community in participatory planning.

The relationship between expert-architect and user-resident in community-based projects is made more complex where there are many hundreds of potential participants. Participation in these situations is better approached as a democratization process - an end in itself and not simply a means to facilitate planning goals. Development is not a commodity to be delivered - interventions are made into dynamic processes that already exist. The first challenge facing the practitioner is to understand the existing process into which she or he is intervening [2]. The objective of relating architectural design to context therefore invites a closer inquiry into the nature of the residents' everyday experience of their environment, that is to say their identity of place, and consequently into the nature of emerging information and communication tools used in that inquiry.

More recently, planning authorities and professionals in urban renewal developments employ innovative information and communication technology in attempts to engage communities in decision-making. In the service of participatory development strategies, tools such as GIS, virtual prototypes, and the internet increasingly disseminate spatial and visual information to communities in widely different cultures. These materials will therefore increasingly affect project identity.

However, this paper will maintain that these tools cannot be uncritically accepted as improving participation by their use alone, and will describe areas of current and further research to improve the language of their communication.

## **RESISTANCE TO TECHNOLOGICAL CHANGE**

Historical examples of misunderstanding between experts and users in technological innovation have been previously described by Johan Schot, among others [3]. In describing

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specific examples in Holland and England, such as the English Luddites of the early nineteenth century, Dutch stevedores' resistance to the introduction of grain elevators to Rotterdam harbor in 1905, and the expansion of Schiphol airport after 1969, Schot writes: "Willingly or unwillingly all those involved came to play the role of proponent or opponent".

The introduction of networked digital systems, while holding the potential to broaden participation in development projects, holds the danger of further polarizing the actors involved in urban planning. In Castells' analysis, computer networks do more than allow an enhanced organizing of activity and sharing of information: "they are actual producers, and distributors, of cultural codes" [1]. The notion of a 'global village' has thus been aptly described as more of a "global gated-community" in the face of a widening digital divide between rich and poor nations, and between the rich and poor inside those nations [5]. South African experience reinforces the cautionary note sounded by these and other writers. Networked communication systems convey of themselves a new dynamic; the instruments used to represent planning and design concepts shape public expectations as well as influence the environments actually produced.

In the context of this paper, it may be noted that it is one of the more problematic ironies in contemporary architecture that technological and scientific developments, in aiding the spread and globalization of consumer culture, have generally reinforced the ascendancy of image over content, while in reaction, the reductive and superficial use of historic forms as a means of expressing regional aspirations further undermine traditional expressions of spatial identity [4]. The communication of architectural and cultural identity cannot be achieved by transmitting representations through visual images and other sensory data alone. Rather, an inquiry and development of more substantial knowledge about the identity and context of place is required to form the basis for improving the communication between experts and users.

## CASE STUDIES

### 1. Cato Manor

The area of Cato Manor is situated within the boundaries of the Durban Metropolitan area in South Africa, and is home to about 80 000 people (2001) with a future population estimated to be in the order of 170 000. It has at various times since its permanent settlement by colonial farmers in 1845, been characterized by subdivision, 'shack farming', and the forced removals of racial groups. The latter political intervention left the area largely vacant in the late apartheid era, until an orchestrated invasion by informal settlements in the early 1990s. Shortly after this event, and growing tensions between the 'squatters' and neighboring formal

suburbs, the Greater Cato Manor Development Forum was established as a collaborative project in which all relevant actors were invited to contribute to the area's future development. The Cato Manor project is now the largest inner-city urban development project in post-apartheid South Africa and includes the construction of low-cost housing, schools, libraries, community halls, markets, clinics and infrastructure. The CMDA (Cato Manor Development Association) is the agency responsible for redevelopment and has secured substantial funding from the European Union, local, provincial and central government as well as other funding agencies. The CMDA seeks to focus on the "stimulation of economic development and community empowerment through interventions such as training schemes and small, micro and medium enterprise development" [6].

Nancy Odendaal, a former employee of the CMDA and currently a researcher at the University of Natal, has described a specific implementation of GIS in the re-allocation of land at Cato Manor during the initial development stages after 1996. Following legal challenges to the CMDA development plans by roughly 450 former land owners displaced by the apartheid regime, the CMDA negotiated a settlement process which was "essentially a GIS-driven planning exercise designed and implemented by the CMDA" [7]. A tabulation of the settlements negotiated with all 446 individual claimants show results heavily weighted in the CMDA's favor, with only 5.4% of total claims deemed feasible to restore. Odendaal notes that, while the use of GIS thus speeded up the settlement claims, and hence the planned development of housing and community facilities, "the conflict resolution process had become a technical process, and limited in the amount of debate generated between participant and applicant" [7]. Her subsequent interviews with land applicants indicated that there was little or none of the promised community empowerment, but that the participatory instrument used "was a formality in confirming the 'objective' truth that was reflected in the maps produced by the CMDA GIS" [7].

It may be drawn from this case study that the information tools used had a direct influence on the mediation proceedings, and hence had spatial and cultural consequences on the environment. It can be further argued that the information technology employed was in fact detrimental to the users' interests, in so far as they had a limited understanding of the information conveyed.

### 2. Holmbladsgade: Dialogue Research Methods

In a case study of inner city renewal (*Kvartersløft*) of the Holmbladsgade area in Copenhagen, the aim expressed by the architects was not so much to reach consensus in new proposals with residents as it was to facilitate the creation of new knowledge through a blending of the expert's and

the resident's understanding; i.e. knowledge which embraced the different perspectives in professionals' and residents' views on the subject area [8]. As such it differs in its approach to the Cato Manor study above. While the latter is driven by a rational view of development and the deterministic role of technology in a participatory process, Holmbladsgade *Kvartersløft* has much to recommend greater acceptance of concepts such as a community's memory, identity and sense of spatial significance. This was primarily approached through non verbal mapping processes which gathered site specific data, and which are interesting models toward understanding differences in perception and the stimulation of debate.

One problem anticipated was the unwillingness or inability of the majority of residents to engage in the upliftment project. In this case (1997-1999) the problem is dealt with by developing methods to inform the professionals about values and problems in the area as seen by groups of inhabitants, such as children and pensioners, who usually are never active participants in these programs.

The process had 3 stages of mapping. In step one the difference between the lived-experience of the area was considered in relation to the professional drawings created to set the scene for the architects' design intentions. Step two produced a variety of residents' views on the area by using 'dialogue' methods [9]. Step three interpreted the dialogues to reach a synthesis.

*Step one: Map of general architectural values.*

The point of departure was made from an existing urban analyses of the area, the SAVE (Survey of Architectural Values of the Environment) atlas, together with the professionals' own urban architectural analyses [10]. This study of urban architecture was based on methods that primarily dealt with architectural values in homogenous, historic areas. The limitations to these departure points became evident as the task to hand revealed itself to be related to urban architecture in an inner suburb that is neither homogenous nor of particular architectural value. Nevertheless, it was from the outset accepted that the area has its own identity, local history and long-standing residents.

*Step two: Map of specific values and problems as seen by inhabitants.*

The map is a result of the dialogues between inhabitants and professionals. The dialogue methods take their point of departure in the professionals' expertise and knowledge of urban architecture. In the dialogue, professionals see through the eyes of the "locals" who often see things that are not of any immediate significance for professionals.

The project used innovative methods of dialogue such as 3-dimensional map interviews and photo-safaris for children

as well as walk-through evaluations and picture sorting tasks. These predominately visual based methods were developed and tested specifically to reduce residents' difficulties in understanding the methods and language of the professionals and to elicit the residents' formal and tacit knowledge about their urban area. In walk-through-evaluation, residents and instructors walked on a pre-planned route through the urban area. At selected spots, notes on the urban architecture were made individually and discussed later with the other participants. For the photo-safaris, school children were split into groups of two or three. Each group was asked to find the three most beautiful places and the three most ugly places and identify them on a 3-dimensional map of the area. The children selected the best of the resulting photographs and exhibited them publicly with great success.

In viewing these photographs, it is striking that to children, significance rather than physical form is given importance. Moreover, it can be noted how the role of technology (in this case disposable cameras) empowered its users, enabling them to formulate and express tacit knowledge of their environment. Entrances, doors and gates are particularly fascinating to them. Yoshinobu Ashihara's theory of hidden orders in Tokyo's townscape is relevant here. He suggests that entrances form a complex order in the apparently chaotic urban streets of Tokyo, giving the streets discreet identities and that within a mixed-use urban area there are many boundaries, not all necessarily visible [11]. Where streets pass through these boundaries, significant "entrances" mark them. Entrances thus tell much about the identity of the urban area.

*Step three: Map of Professional Synthesis*

The synthesis of the professionals' mapping with the places pointed out by the residents encompassed the specific properties and the identity of the area. The interpretation of the dialogues resulted in a new synthesis of the general point of departure and the specific and diverse residential views. The resultant mapping shows islands of homogeneity in a wholeness of complexity. The islands have their visual urban orders (Modern or baroque for example) but the whole has complex cognitive orders of significance such as meeting places or patterns of local historical and cultural links. A notice board may be a useful metaphor for describing the complexity of the inner suburbs, symbolizing the social and architectural diversity of inner suburbs. The homogeneous parts can be "read" even if they differ in style, typography or language. But mixed urban areas have to be analyzed in ways different to homogeneous areas as they are of a more complex sort of order. This order refers to underlying structures and has hidden linkages, as found in the Holmbladsgade area. The tacit knowledge of the residents may be analogous to the

underlying structures and hidden linkages binding the inner suburbs together and giving them their identity.

In the Holmbladsgade case the goal was to give professionals an improved understanding of an apparently poor and uninteresting urban area. For this, the residents had to be involved and new visual tools had to be developed for the dialogue process. These methods entailed a mutual learning process for both the researchers and the residents involved. The dialogue process influenced both expert and user opinions and knowledge. It represents common capacity building for future collaboration between professionals and residents, giving the latter real influence and engendering both economic interest and responsibility in the projects. The interactive and social nature of design coordination provides a more flexible process support environment in which the diverse contributions of distributed parties can be accommodated.

### **3. Nørrebro Park Kvarter: The Electronic Neighbourhood**

While the Holmbladsgade project developed new methods of approaching urban renewal and public participation, a new project in Nørrebro Park *Kvarter* expands this process of dialogue between residents, professionals and authorities. Its intention is to integrate the new methods in the continuing process of urban and cultural change. 3-dimensional digital urban models had been usefully introduced to the Holmbladsgade project and had served as a common reference in the dialogue with residents. In this second Danish case (2000-2004) methods for facilitating participatory action of residents are further developed into a dialogue through use a virtual urban space created on the internet [12]. Here, residents are encouraged to interact among themselves and with professionals and in this way extend the urban topos they already experience. This expanded public urban space offers the opportunity to develop as a meeting place for exchange of information, opinions and for collaboration on matters regarding the regeneration process of their physical environment.

In the Nørrebro Park example, dialogue methods are developed by use of information technology to involve and to inform many more residents than had previously been the case. The maps of values and problem-areas elicited in dialogue methods are now made available through the internet to all the active residents as well as the about 50% of local internet users in the area. Dialogue research is developing in the direction of supporting the active residents with GIS based information, linked to a 3D city model and presenting views and evaluations from both active and marginal groups to the politicians and professionals involved in the regeneration project.

The intention for the electronic neighbourhood is that it develop in an ongoing process and take its form, details and links from actual debates, events and proposals in the

revitalization process. It is the thesis of the ongoing research project that, by developing digital representations of urban topos and the creation of a virtual urban meeting space, new meanings of the physical spaces represented may develop as a result. It is specifically in this relation between virtual and physical worlds that further research is necessary.

### **AREAS OF RESEARCH**

There is a thus a need to both understand and evaluate variances in the perceptions of end-users in relation to the designers' intentions, and to develop methods to minimize these differences. Moreover, where an existing environment is modeled virtually as a design and communication tool, architects may well be unaware of local interpretations of those places represented, and their significance for the community in which they are located. Research will be directed towards a quantitative and qualitative description of these differences in perception. Through collection of data in both South African and Scandinavia, an explorative comparison may be made for cross-cultural similarities and differences. These issues will be explored particularly as they relate to virtual and digitally represented environments, toward either confirming or negating their generally assumed superiority over traditional means of architectural representation. From a theoretical investigation of the above issues, experiments and data collection, it will be attempted to develop a limited set of methods for predictable results in user perceptions of architectural representations.

Two sets of relationship of real to represented environment will be investigated: in the first instance where subjects have a prior knowledge of the physical environments they encounter virtually, and in the second, where subjects have a knowledge of the represented prior to encountering the real physical environment. Specifically, comparisons will be made between spatial perception indicators in an existing environment, and similar indicators in its representation.

#### *Potential outcomes of research or methodology.*

For both real and represented spatial environments, tests will include the perception of height, scale, light, shadow, transparency, color, texture, sound, materials, level of detail and elapse of time. It will thus be possible to quantify and compare the results obtained from the two (or more) test-groups and assign a numerical factor of variation between them for the specific tests. Further comparisons and statistical analysis can then be made between the results for the various media employed in representation.

The production of statistical data, which compares perceptions or experiences in simulated and real environments will allow the drawing of conclusions as to those representations' accuracy in conveying the architects' intentions to the end-users.

With quantifiable perceptions of real environments as the benchmark, the comparison of either having or not-having prior knowledge of an environment when viewing its representation, will indicate methods for improving the accuracy of spatial representation.

#### SUMMATION

Urban renewal projects afford planning professionals an opportunity to facilitate attempts at creating new knowledge, while empowering a sense of community through participatory planning. Innovative information and communication technology expands this opportunity.

There is a need to consider the non-verbal language used in the dialogue between experts and users. The project in Cato Manor illustrates some of the problems associated with the emergence of digital information and communication tools in South Africa and its potential detrimental effects on participation through alienation of users.

Two recent projects in Copenhagen illustrate more innovative methods of enquiry into residents' perceptions of spatial identity. Both attempt to invite wider participation in upgrading of urban neighbourhoods. The first example attempts to create new knowledge through forms of dialogue between professionals and inhabitants, while the second builds on these methods and includes distributed, interactive 3D models of the neighbourhood.

The instruments used to represent planning and design concepts shape public expectations as well as influence the environments actually produced. Castells has written that the "space of flows" undermines the space of places [1]. The future implications for the use of virtual worlds in developments of this nature should not be underestimated.

Communication is a precondition for most day-to-day social actions, and which is in turn prerequisite to the interpretations of spatial identity sought between expert and users in the examples above. The language of dialogue used in information and communication technology must be understood in similar ways if it is to fully serve its purpose.

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