Abstract

No two mental maps are identical. A mental map is a unique, personal and selective representation of reality. A mental map is daily used as a reference for orientation and movement throughout a territory (routing), but also for associative processes and judgement (valuation). Our mental maps become more complex over time when we incorporate information derived from indirect as well as direct experience. We form mental images of places where we have never been ourselves. A mental map is based upon personal experience with an area, but by lack of this upon indirect information from the mass media or a certain reputation of the area in general. An extensive media attention can leave us with greatly distorted impressions of the actual situations.

One of the most famous mental mapping researchers is Kevin Lynch. However, the cultural significance of the city image was not the main focus of his investigations. Mental mapping as a research instrument uses visualization of different maps of individuals within groups with specific characteristics. In this way insight can be gained in the more collective carriers of urban identity and the general functioning of an urban territory for specific groups.

WSA consultants have developed a specific method based on the instrument of mental mapping. In this method a topographic map is used as a reference in scale, pictures as a reference in image of the area as assistance for orientation on the map. All individuals construct their own map based upon a questionnaire using different tools for answering such as different line types, icons or symbols. After the exercise people are asked to comment their own results.

The method seeks to give insight in different, interrelated levels of mapping. The different mental maps are thematically grouped, super positioned and compared. Synthesis or conclusive maps can then be created upon specific combinations or series of individual maps. Similarities might appear between maps of people with a comparable lifestyle, age, interest or grade of experience with the area. In this way, the meaning of specific parts of the area for specific groups can be revealed.

The approach seeks to give insight in the use, the identity and the appreciation of an urban area. Mental mapping can be used as an instrument for urban development strategies when the insight can be elaborated into programmatic intervention and transformation. A better fit between physical form, its use, symbolic profile, recognition and appreciation by different groups will then be leading to more differentiated, comprehensive and thus meaningful urban areas.
Mental maps; ‘real’ urban landscapes

We all use mental maps, but no two mental maps are identical.

There is an essential difference between the formal city map and the visualization of an individual mental map. In order to make maps ‘understandable’ and ‘readable’ for everyone cartography uses standard norms and conventions to visualize reality. Different ways of representing the city and its infrastructure are increasingly gaining interest in our information society. But ‘the map is not the reality’. A mental map is an individual’s, selective representation of their known world. The definition of mental mapping originates from the science of cognitive psychology. In many fields of practice the mental representation of the environment by the human being is of essential importance. In daily life the mental map of our physical surroundings is essential in finding our way in reality. It structures our remembrance of several aspects of reality; either the city, our supermarket or a private book collection at home.

Especially in the sixties and seventies of the last century, several urban planners and researchers developed the notion of mental mapping as an instrument of urban research. Kevin Lynch did pioneering work on people’s cognitive maps and how people structure their image of their environment. His innovation was the concept of ‘place legibility’, which is the people’s ease of understanding the layout of a place. He pointed out the most characteristic urban elements of these mental representations: ‘paths, nodes, edges and landmarks’.

As an urban planner Kevin Lynch was merely interested in the functional and pragmatic aspects of the mental representation; his concept of the ‘imageability’ referred to the capacity of urban artefacts to imprint the observers mental map with a vivid, strong image. The identity or cultural significance of the image was not the main focus of his investigations.

Every person stores a different city experience in a personal, unique mental map. The mental map not only consists of direct experiences by personal use, but also aspects of personal appreciation and personal values. These maps therefore relate to our own individual lives and lifestyles. Mental maps are not as objective and unanimously accepted as a conventional map. The brain creates its own version of reality by a selective process of simplification, categorization, deletion, distortion or generalization.

The mental map is daily used as a reference for orientation and movement throughout a territory (routing), but also for associative processes and judgement (valuation). Neurobiological research proves that there is nothing like files with a stack of objective facts, but a permanent cocktail of collected wisdom depending on our emotional state or the current task we are in. These more complex aspects of personal judgments of territorial conditions based upon one’s own mental map demand a much deeper understanding of the characteristics and effects of our contemporary city landscapes, city life and society itself.

Our mental maps become more complex over time when we incorporate information derived from indirect as well as direct experience. In addition to the personal experience the mental map is influenced by the reputation of the area in general. This reputation mainly derives from indirect information from the mass media. Extensive media attention can leave us with greatly distorted impressions of the actual situations. The identity of an area is then overruled by reputation or indirect information.

Investigations of mental maps show that the mass media’s coverage and stereotypical discussions and coverage of places around the world has a major effect on people’s perception of the world. We tend to have clear impressions of what daily life in a certain area might be like without having had any direct experience whatsoever. We form mental images of places where we have never been ourselves.

What has been called the ‘ecology of fear’ in American culture is very much related with this phenomenon. Although addressed to as intellectual dishonest for misusing source material, the examination of problems facing L.A. by Mike Davis is clearly pointing out the effects of indirect mental representations of the city by a majority of citizens. The psychology of the melting pot in American urban
society reflects on the territories of the urban landscape itself. Places of race riots have more direct impact on mental maps of citizens than ‘place-less’ slow evolutions of emancipation of minorities. But also for simple marketing purposes specific information can be plugged into the mental maps of potential clients. ‘Discover your own spots’ once was the funny title of a Dutch TV program meant to make ‘beautiful and romantic’ places (according to the producers) known to a broad public. A specific area was literally ‘pre-programmed’ in the mental maps of the TV public as a tourist spot.

While our mental maps are built up from direct and indirect information on our environment, these maps are at the same time filters that qualify new information coming from the environment. The order of existing knowledge conditions the way we store new information in this system. This process can be seen as the ‘shaping’ of our mental maps by transferring new experiences through several levels based on the confidence that our map of reality is the truth. ‘When individuals or social systems are confronted with new experiences, they need to bring these experiences in line with their concept of (self-)identity’. (www.change-management-toolbook.com)

**Mental mapping; instrument for urban research**

‘The city that we seek, conditions the city we will find’ (Sharpe & Wallock, 1987).

Mental mapping as a research instrument uses visualization of different maps of individuals within groups with specific characteristics. In this way insight can be gained in the more collective carriers of urban identity and the general functioning of an urban territory for specific groups. Participants are people, who all have a relation to the area but in a specific way (inhabitants, tourists, commuters).

By detecting similarities and differences within the series of individual mental maps explicit characteristics with collective meaning can be located. The compilation of these can be seen as ‘place identity’.

WSA consultancy has developed a specific method based on the instrument of mental mapping within the project ‘Identity & Branding’. This project aims to develop a method for master planning or better a development vision for urban areas on basis of research on identity and the ‘brand’ of the area. The exercise of mental mapping is a specific part of the research phase on the existing identity of the area. In this method a topographic map is used as a reference in scale, pictures as a reference in image of the area as assistance for orientation on the map. All individuals construct their own map based upon a questionnaire using different ways of answering such as different line types, icons or symbols. After the exercise people were asked to comment their own results. This approach is preferred to the method of interviewing people and production of the map (afterwards) by a professional. Neither does a non-regulated, free production of mental maps by individuals allow further interpretation or analysis afterwards.

The method seeks to give insight in different, interrelated levels of mapping. The first level addresses the more functional level, which is most related to the pragmatic use of the city as an environment. The instruments of Lynch are most helpful in uncovering this functional aspect of the mental map of city users. This part of the exercise seeks to give insight in questions such as:

- How do people orient themselves and find their way in the environment? Which urban elements and artefacts are playing an important role? What can be seen as landmarks?
- Which activities are taking place in the (public) area and how is the physical environment supporting these? Which artefacts or parts of the public domain are most used and by what groups?
- What urban program is most used, how does this relate to human activities?

The identity of the urban environment is questioned in the next level. It is the level of ‘coloured’ data of the environment by adding meaning to indicated spots and areas.

The urban form has cultural significance as well as personal meaning. Cultural meaning is disclosed by the combination of specific elements belonging to a coherent set of aspects in our urban environment. Urban
composition, architectural style, housing typology, street life, facilities, use of public space or even regulations all contribute to the overall identity of an urban area.

What are the places that are seen as typical and characteristic in the area? Where are psychological boundaries within the area projected and what names or qualifications are given to these areas?

Which are the artefacts within the area that people refer to as meaningful? What are the cultural ‘carriers’ of identity in the area and are these physical or non-physical of nature?

The level of assumptions and conclusions is based upon the personal meaning added to the urban characteristics.

Urban dwellers relate their environment to their concept of ‘self’. Due to this association people can communicate non-verbally by the expression and identity of the objects and environment surrounding them. Recognition by other individuals having a similar value orientation or lifestyle is made possible by the cultural and symbolic content of the urban environment. We all appreciate and judge sets of urban characteristics constantly. We (can) picture the general orientation of people living in an area just by passing through and making assumptions based upon the meaning that is expressed by characteristics of the surroundings. Whole urban areas are addressed to by connotations such as ‘poverty’ and ‘wealth’, social or ethnic origin, lifestyles et cetera. This part seeks to give insight in questions such as:

Which places are seen as pleasant, unsafe or expressions of community pride? What appreciation of the physical and social environment of the area is exemplary for the groups or communities within the area?

What value orientations of people within the area derive from the maps and how do these relate to other information of the participants? What judgments are given on transformation processes within the area?

The different mental maps are thematically grouped, super positioned and compared. Conclusive maps can then be created upon specific combinations or series of individual maps.

For reflection on the produced mental maps as ‘raw material’ it is important to have insight in the background orientation of individuals taking part in the exercise of mental mapping. Different people will produce different mental maps, since these are personal and related to their life(-style). Similarities might appear between maps of people with a comparable lifestyle, age, interest or grade of experience with the area.

The creation of synthesis maps is led by the question whether there is any resemblance in mental maps of the area by different individuals or groups. What is the coherent factor in the different maps of these groups? In this way, the meaning of specific parts of the area for specific groups can be revealed.

Next to being an instrument for urban research, mental mapping can be an instrument for urban developments when giving enough support for defining programmatic proposals. The insight in existing and ‘true’ identities, their expression in the urban landscape, community values and relations with the urban society as an overall context then must be elaborated into programmatic intervention and transformation.

Strategies for a better fit between physical form, its use, symbolic profile, recognition and appreciation by different groups of people will then be leading to more differentiated, comprehensive and thus meaningful urban areas.
References

Downs and D. Stea. Image and Environment: Cognitive Mapping and Spatial Behavior. Chicago,
Spatial-statistical Study of Communication-shaped Mental Maps. Communication Research, 28(4),
429-463 Available: www.web.ics.purdue.edu/smatei/mentalmaps
Sharpe, W. and Wallock, L. (1987). From “Great Town” to “Non-place Urban Realm”: Reading the
Hopkins University Press, 1-16