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Parks and their users

1 Introduction

An urban park is not merely a green plot in a city or settlement. It is that public green space, which should be equally available for diverse users. A model of a public park with social programme was grounded in the mid 19th century by F. L. Olmsted. New York State of the USA had accepted an act concerning the arrangement of park on a public land for citizens of New York. As a consequence The Central Park was developed. Shulyer (1986: 65) quoting Olmsted's consideration and notions about 19th century parks: "Park was designed as kind of democracy, where the poor, the rich, the mechanic, the merchant and the man of letters, mingle on a footing of perfect equality". When designing parks, Olmsted followed the principle idea, that there is a moral power in the nature, which may improve the city and enable better life for people (Ogrin, 1993). The Central Park in New York and other significant and important parks he designed, e.g. Prospect Park in Brooklyn and Franklin's park in Boston, are country-like settings, following the design concept of English landscape style. In his parks formal geometric articulation is less present. This approach of F. L. Olmsted had great impact and influence on design and purpose of the contemporary parks. However, nowadays we may ask ourselves some questions: Is such approach still relevant? What is contemporary today? Who is the broad public today? What kind of parks to offer today and/or tomorrow?

Ward Thompson (2004) states, that today we need a more sophisticated understanding of the democratic process in order to identify, and provide for, the needs and desires of all in the diverse mosaic of our urban cultures. The answers are to be sought on questions such as: How to ensure that what suits one group of people does not preclude provision for, and enjoyment by, another group? Ward Thompson (2002) suggests further, that instead of the park as a "melting pot", we need the "salad bowl", where different cultures can find individual expression. This rises questions about how adaptable historic parks are and how much their design, as opposed to their programmed use, needs to change that needs and expectations of the contemporary society can be met and that the diversity of usage is stimulated as well as possible.

The conceptual framework of this paper refers to a need for provision of diversity of uses in parks and other open green spaces in cities and towns. It is based on the point of departure, that in design of parks as well as other public open spaces in cities equal attention has to be paid to formal and visual qualities of places, their actual uses and by this to experiential values of places. An exaggeration in physical and visual properties of places on account of functional weakness, can however lead into an unbalanced usage of places and in the extreme examples towards devastated places.

Accordingly, the paper addresses following hypothesis:

- An empirical knowledge about usage-spatial potentials of places is of key importance in urban design professions and has an important role in urban design practice;
- Designers' perceptions and beliefs about actual uses in places are often not adequately confronted with actual uses, respectively needs and habits of users in open spaces;
- Despite individual differences there are common behavioural patterns that appear from one place to another, and so;
- Behavioural patterns address usability and/or the spatial capacity of a place and reflect spatial potentials for occupancy by one or more activities.

Similarly, as Olmsted focused his thoughts on a future user for parks for equalised users, so nowadays designers of parks and other green open spaces must have clear perception about future users, their needs, wishes and habits regarding places they design. Goličnik (2005a, 2005b) finds out that designers' beliefs and awareness about uses in places, in some aspects, differ from actual use. Discussion is based on the research (Goličnik, 2005a) which explored physical form and dynamic patterns of spatial occupancy in urban parks and squares. It focuses on selected case studies from Edinburgh (UK) and Ljubljana (Slovenia), using two types of data. Firstly, it discusses the actual uses mapped in places, using repeated observation on different days, times and weather conditions. Secondly, it addresses designers' views and beliefs about usage and design of urban parks, gained from workshops with urban landscape designers.

2 Methodology

Data on parks use were collected in two European cities of comparable size and density, Edinburgh (May 2002) and Ljubljana (May 2003). The month of May was chosen as the time when the weather was likely to be warm and the outdoor activity pleasant. A day observation unit represents four sections: morning (10am–12pm), early afternoon (12–2pm), afternoon (2–4pm) and late afternoon (4–7pm); during the week as well as weekend. The observations were usually conducted for one location in a setting, from where a good overview across a place was provided. As these parks were too big to be observed with one overview across the entire place, they were divided into more sub-areas, usually three or four. Each such spatial unit was observed for 10 minutes. Open-ended set of symbols were defined, which were placed on a map of place in scale 1:1000 when any such certain activity was actually seen in a place. However, such records were accompanied by some qualitative information as well, such as duration of an activity, age of the participant (age group), direction of movement and date describing the weather conditions at the presence of the activity. In this paper, comments refer to observations of three larger parks, two from Edinburgh (The Meadows and Princes Street Gardens) and one from Ljubljana (Tivoli Park).

Designers' views and beliefs about park design and its potential usage resulted from several workshops with urban landscape designers in Edinburgh, a sample of 35 participants in all. Each workshop usually took about one hour. Although

participants carried out the tasks individually, the introductions, instructions and explanations were given to them in group. This inquiry was intended as a pilot study, to look for some basic insights about such issues, rather than a fully-fledged investigation. Besides the answers to some questions, asking for designers' opinions about the relationship between a place's design and its use, participants were also involved in drawing tasks. In order to get as reliable information as possible in these drawing exercises, it was very important that designers were unfamiliar with the places they were responding to. The drawing exercises were limited to a representative part of the Tivoli Park. This was an enclosed spatial entity, which covers different types of settings that would conventionally be parts of a city's central park.

3 Results and discussion

The usage-spatial relationship is commented with regard to results from observation and behavioural mapping. The paper focuses on two significant types of park usage. Firstly, it pays attention to passive activities such as sitting and lying down are commented. Secondly, the attention is paid to active long-stay activities such as sport games and children playing. Results from the designers' workshops are discussed in the last part. The discussion is supported by some comparative analysis between workshop results and results from the observations.

3.1 Articulation of green patches and passive use

The results from observation and behaviour mapping showed that large parks are mainly used for rest and relaxation.

Passive use such as sitting on a bench is popular with young and old, from a single person to groups. Sitting or lying down freely on the grass is popular with the younger population, especially teenagers, young adults, and families with children. The analysis of the studied parks – Tivoli (Ljubljana) and The Meadows and Princes Street Gardens (Edinburgh) – showed that several different types of settings were conducive for such passive use. Goličnik (2006) elaborates that they are: occupancy right next to a solid edge such as a slight slope; sitting in the areas where there were smaller groups of trees or solitaires; and sitting in a buffer zone of about 5 to 15 m away from transparent edges such as tree-lined pathways. This later varies, depending on intensity of path use, level of transparency of the edge and the entire area of the patch. Corners or paths' intersections are also important elements of spatial articulation. Passive usage such as sitting and lying down can be found in similar distances from them as mentioned in the case of transparent edges.

Sitting freely on the grass was practically not seen for example along any of the broader zones along the path with no other spatial definition. The analysis showed that not only the quality of edge but also spatial articulation in general (groups of trees, single trees on patches) influence user's choice for passive engagement such as sitting or lying down in a park. This is clearly shown on a set of images from the Princes Street Gardens in Edinburgh. The last picture in the set of pictures (see Figure 2), showing a group of teenagers in Princes Street Gardens on a clod afternoon is particularly eloquent as they had the whole plot available but they chose this particular location, which was proven to be chosen quite often, illustrated from the other two pictures of Princes Street Gardens in the set. The data also show, that a minimum di-

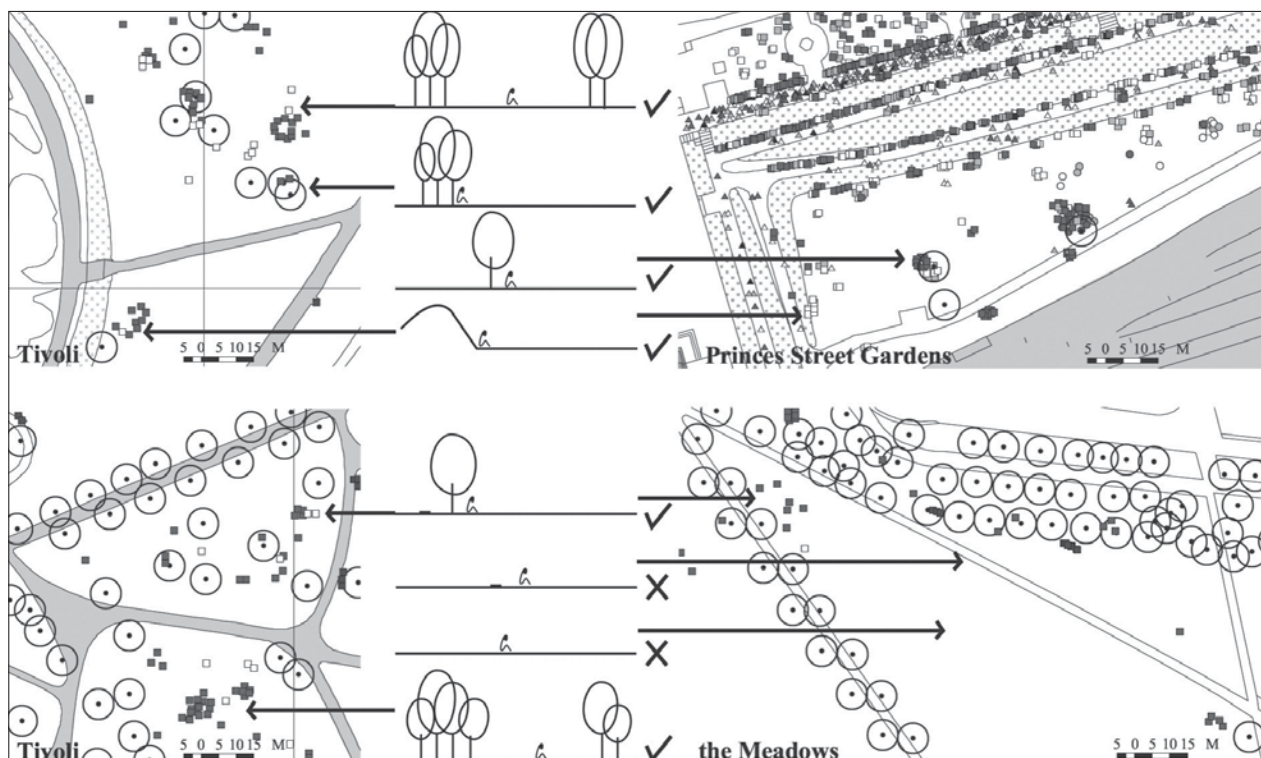


Figure 1: Different spatial qualities of settings and their conduciveness to passive usage such as sitting and laying down (source: Goličnik, 2006: 103).



Figure 2: Significant patterns of users (source: Goličnik, 2006).

stance between individual users or groups which are sitting freely on the grass, are about 4 meters. It seems like this is a distance which still gives a comfort and enables privacy in a public space.

3.2 Green patches: shapes and sizes of areas of active uses

The importance of spatial articulation reveals, especially where there are not very many different elements of spatial definition, that it is not only physical spatial definitions that might direct uses in certain spatial occupancy, but that the presence of other users, to a certain degree, can perform this function, too. Mainly, larger groups of active participants articulate places and, in so doing, they create room for themselves and for others. Accordingly, it is very important to recognise the role of voids between the occupancies in places. They reflect the effective distribution of uses in places as well as their co-habitation and by this reflect on capacity of places for use.

Treib (2008) in discussion about successful green spaces stresses, that it is of key importance that a park hosts user groups of different sizes. Goličnik (2005a), based on the empirical data, recognises three types of user groups regarding their size. Large groups, which are most often represented by adults playing football in parks, usually occupy an area of 5000 m². Medium size groups are those which occupy any area between 1000 and 5000 m², while are those which take less than 1000 m² and are usually consisted by a few

users, considered as small. In The Meadows, for example, the majority of groups involved in anyone long-stay active activity is small or medium sized. Place occupancies do not differ only with regard to the area they require, but also with regard to the shape they take and how compact they are. This latter refers to the number of people engaged with the activity on its effective territory; hence it is strongly linked with a particular kind of activity undertaken. Football players usually represent very compact groups, whereas groups of frisbee players, for example, are very loose as players are further apart from each other. For an illustration – see Goličnik (2005a, 2006) – For active appropriation of territory for informal football games, groups of 15 – 20 people need 3000–5000 m² and a longitudinal shaped space. For smaller groups of people and informal games other than football, 1000–3000 m² spaces are adequate. With the exception of frisbee, the shape of spaces for these informal sports need to be a void with the longest dimension no more than twice the average width and, ideally, rather less.

Results also showed that young women occasionally join group ball games, but, more often, they are engaged in park life as passive participants, sitting on the grass, reading and watching the world go by. They are often involved in active, intermittent movement through a place, pushing a pram or walking with children as well as jogging. Tivoli and the Meadows represent the important pedestrian links between different parts of the cities, therefore walking through as well as cycling and roller-skating (Tivoli) are frequent and well participated in activities, popular again with all age groups as well as gender-balanced.

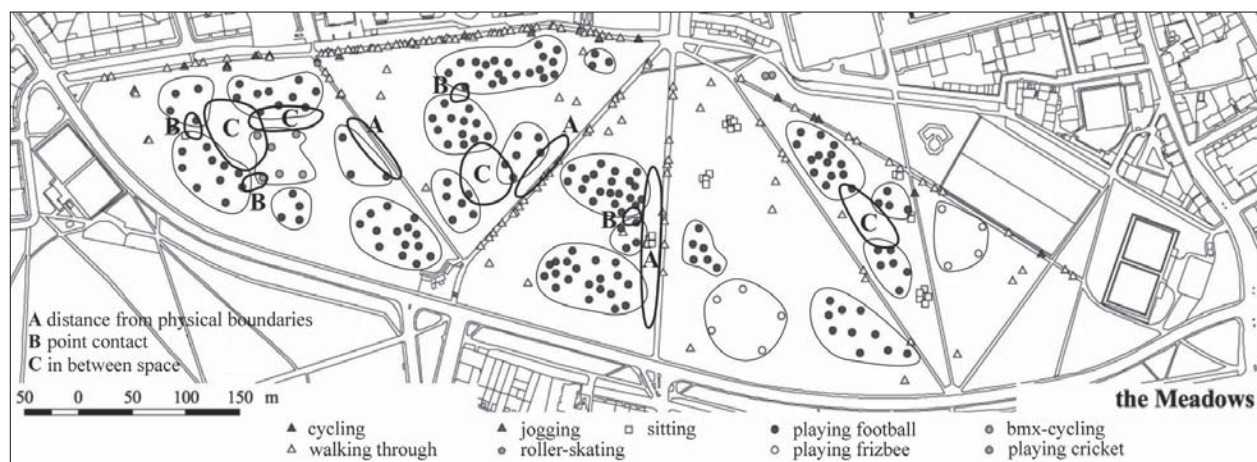


Figure 3: An illustration of different types of voids between uses and between them and physical environment (source: Goličnik, 2006: 118).

3.3 Potential and actual environments of park uses

The empirical data (Goličnik, 2005a, 2006) shows that particular elements of spatial articulation are not always equally conducive for certain use and that different combinations of the same elements significantly determine conduciveness of places for co-habitation and intensity of uses in them. In other words, every location with a bench is not equally simulative for sitting and it is not equally possible that children are going to play on whichever green patch in a park.

Although in environmental psychology (Bell et al., 2001) the approaches of *environmental possibilism* and *environmental probabilism* are known for decades, the results of planning and design practice still largely follow the principle of *environmental determinism*. This is a belief that the environmental circumstances have absolute causal relationships to events. It means, that it is the environment that suggests usage. Place as such is recognised as an important ambiantal entity in which users are invited to get used to it and accept it for their activities in it. In cases where a place actually offers choices and stimulates diverse uses, the situation goes beyond determinism and follows the principles of *environmental possibilism* and/or *probabilism*. Possibilism is seen as the notion that the environmental context makes possible some activities but does not force them to occur. Probabilism is defined as the notion that the environmental context makes some activities more probable than the others but does not absolutely determine which will occur. In good and successful design practice it is necessary to be aware of the fact that designers create only potential environments and that users themselves form effective environments.

When debating public spaces Robbins (2008) clearly states that people do not automatically come into a place. Unfortunately, rules of the game are not as follows: make a public place and expect that people will inhabit it. Similarly, results

from designers' workshops refer to this issue, too (Goličnik, 2005a). Concerning designers' perceptions and imagination about public places and the likely activities that occur in them, workshops' results showed, that about 80% of those questioned thought that they could predict the future use of places pretty well. Although the majority of participants believed that they predicted uses better in a park (about 60%) than in a square (about 40%), detailed analysis of the actual mapping of likely uses in these two places revealed that, interestingly, they were more accurate about the selection and location of uses in the case of the square. Results from the workshops were finally classified with regard to descriptions of activities suggested, from strong to weak as well as different levels of accuracy in drawings when locating these likely activities in places.

In analysing the drawings in relation to the use of park three categories were used for the accuracy of prediction of use. The category *specific use* refers to a precise naming of activities such as sitting, walking and the like. The category *general use* addresses general descriptions such as social gathering, passive recreation or active use and the like. The category *no use* reflects descriptions with no reference to any particular activity but it might refer to a type of gathering, for example, a group. The categories used to describe the level of accuracy in designers' depiction of the locations in groupings of likely uses were as follows. A *specific location* refers to demarcating a distinction between individual and group users, including distinctions between big and small groups and the shapes they might form when occupying a place. *General location* reflects situations when bubble diagrams indicate expected uses, with no distinctions about shapes and clustering in which the uses might be distributed. The category *no location* refers either to an inscription of an activity in a map, with no specification how, exactly, the described activity may take place. It makes no contribution to any recognition about the actual precise location of activities in a place.

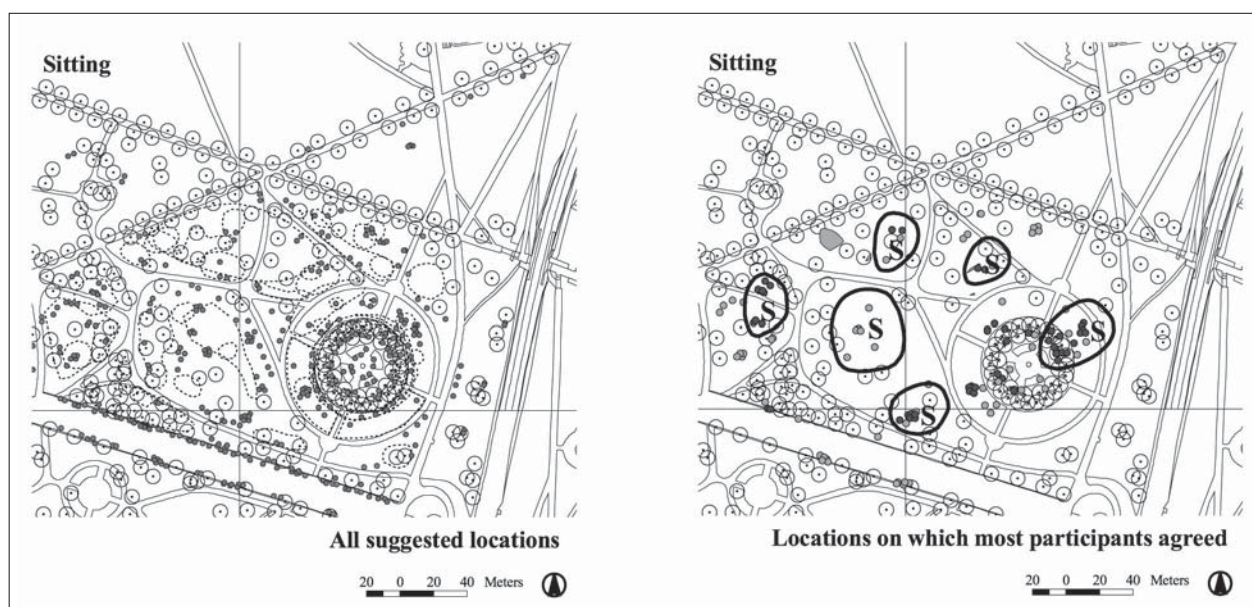


Figure 4: Results from the workshops: Areas suggested for sitting in Tivoli Park, Ljubljana. The left image shows summary of all locations. The right one shows those locations on which most participants agreed (source: Goličnik, 2005a).

The analysis showed that 35% of participants refer to precise naming of activities and being specific about their location at the same time. 30% did not express any specific information neither about any type of activity nor its location. For illustration, some other responses were as follows: 17% used specific names for activities but stayed general with references to their location, using bubble diagrams or arrows indicated expected uses, with no distinction about shapes and clustering in which the uses might be distributed. 6% were specific about the location of activities but became general concerning their naming. 6% of participants also demarcated detailed locations of occupancies but gave no references to activities using descriptions for them such as

groups etc. However, the more accurate and precise location and use definition is, the better the comments on such issues are possible.

The comparison of the daily frequencies of appearance of activities in a park (observation and behaviour mapping) and the number of suggestions from the workshops' participants for their likely presence, allows a first general comment on the designers' responses about likely uses there. Further comparison between workshops' results and the equivalent recorded data from observations shows quite remarkable similarities, especially for the frequently suggested and often recorded uses such as walking, sitting,

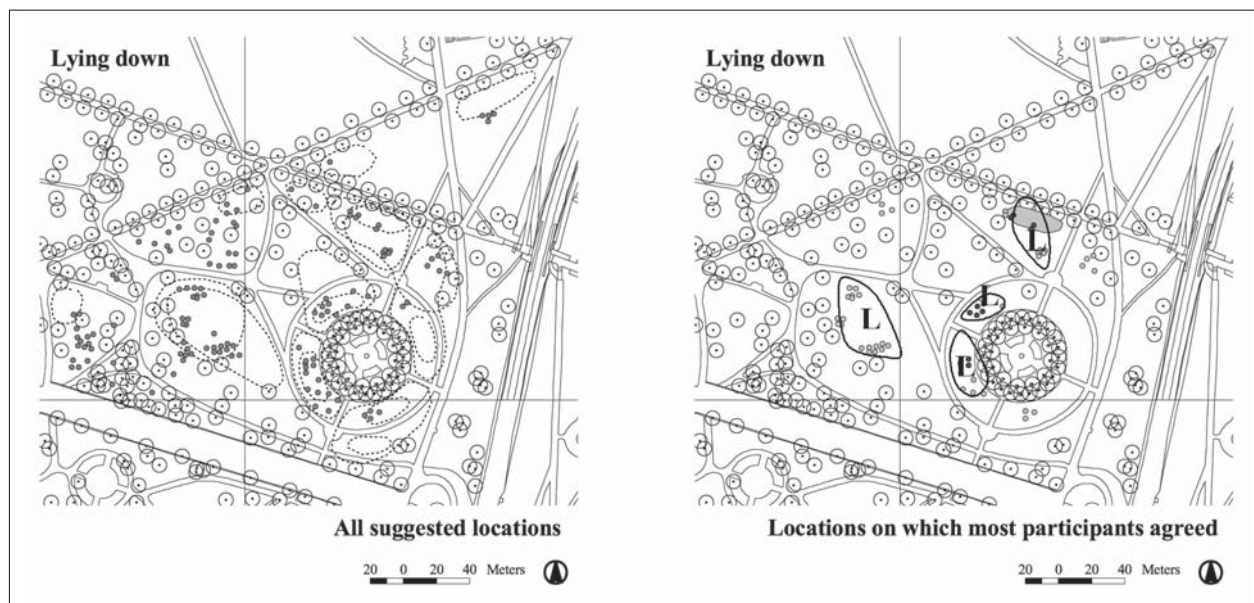


Figure 5: Results from the workshops: Areas suggested for lying down in Tivoli Park, Ljubljana. The left image shows summary of all locations. The right one shows those locations on which most participants agreed (source: Goličnik, 2005a).

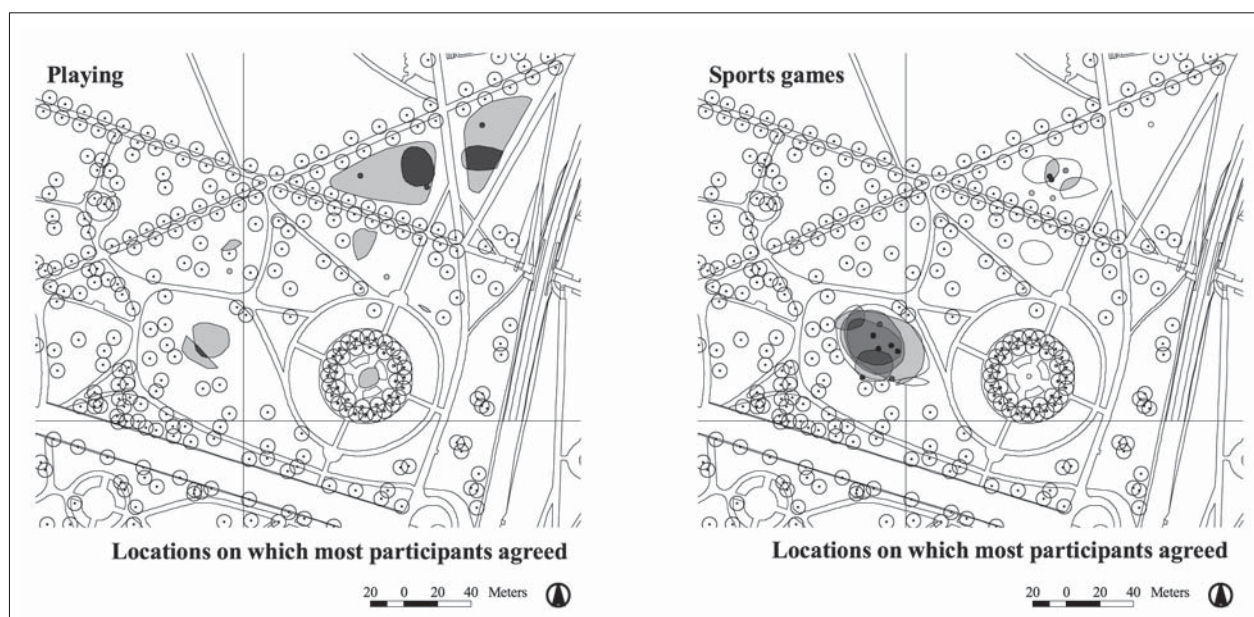


Figure 6: Results from the workshops in a selected setting of Tivoli Park, Ljubljana. It shows those locations of likely occupancy by long-stay active uses on which designers agreed the most. Left image shows situations for playing, while is the right one about active sport games (source: Goličnik, 2005a).

lying down, walking a dog and cycling. Sitting, either on provided street furniture or freely on the grass, was widely recognised as a likely occupancy in a park. Designers' responses in locating sitting were often very specific, using dot-symbols, sometimes general, either outlining big overall areas or smaller areas, with which they usually referred to groups. The results showed that sitting was suggested for a range of different settings. It was imagined for the lawn patches of different sizes and shapes with some scattered trees (although not necessarily under the trees), and for

lawns, benches, and the hard landscaped area of the geometrically designed part (circular motif).

When looking for those locations for sitting on which designers agreed the most, an overlapping map demonstrates the intersections between all credible suggestions and shows that the designers imagined different types of sitting (groups, individuals) in all kinds of settings in a park (see S in Figure 4). Similar analyses for lying down, for example, reflect a different layout. Final results show that, commonly,

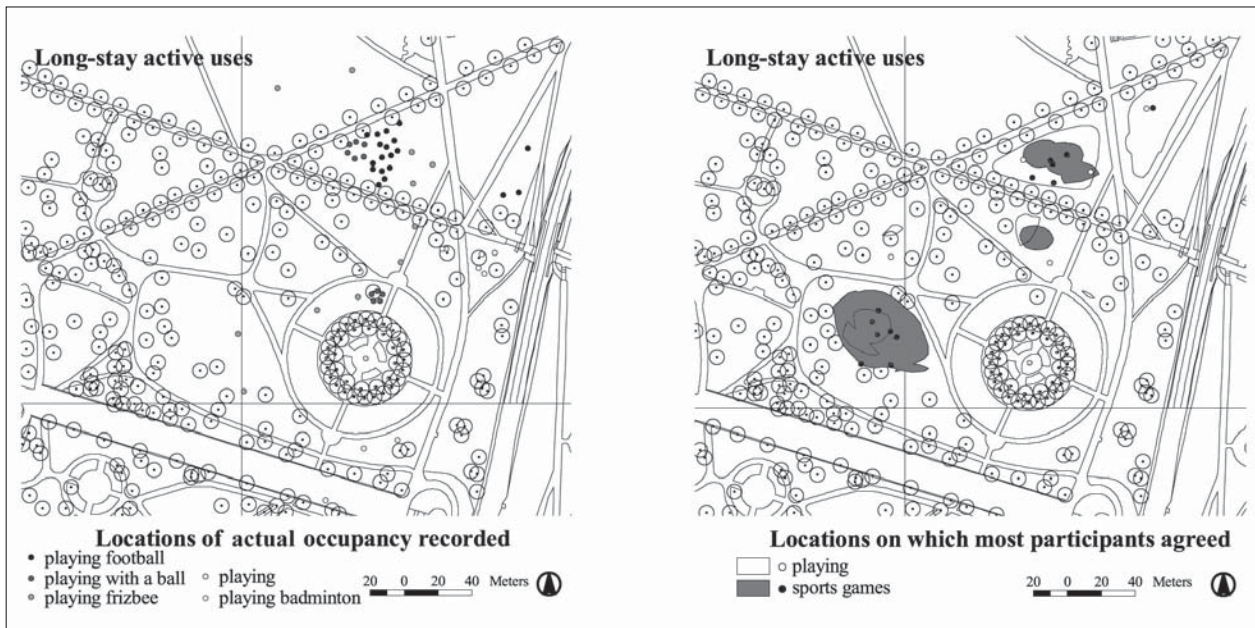


Figure 7: Results from the workshops in a selected setting of Tivoli Park, Ljubljana. The left image shows actual occupancies by long-stay active uses in park life, as recorded in the entire observation period in the park. The right image shows those locations of likely occupancy by long-stay active uses (playing, sport games) on which designers agreed the most (source: Goličnik, 2005a).

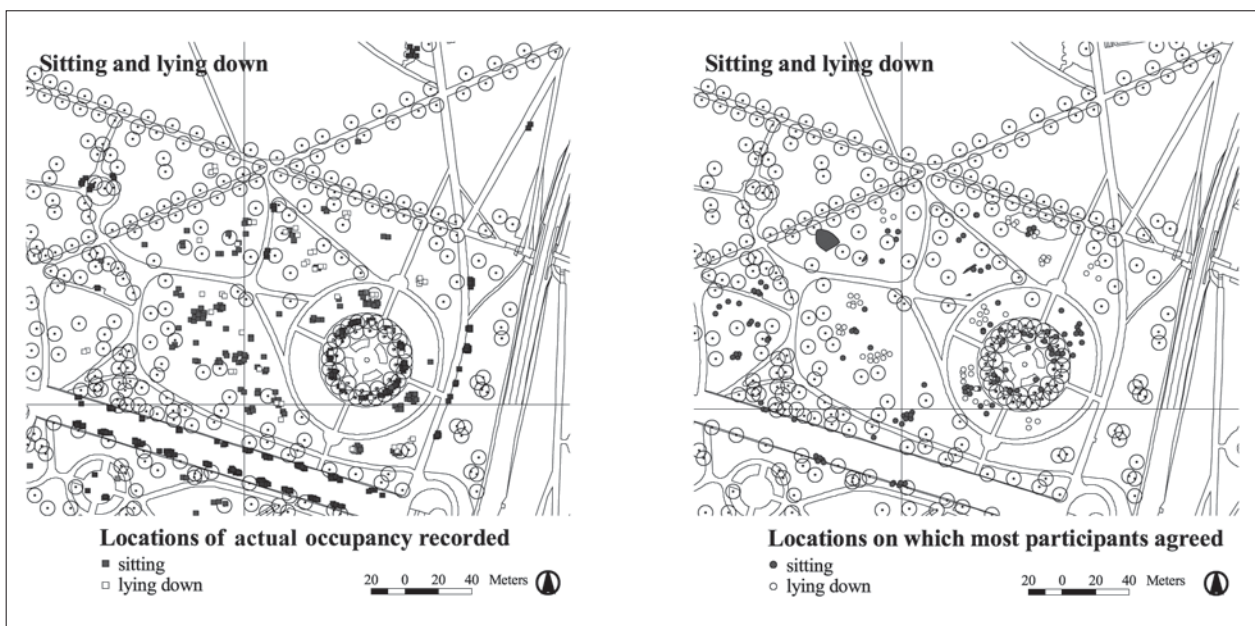


Figure 8: Results from the workshops in a selected setting of Tivoli Park, Ljubljana. The left image shows actual occupancies by passive uses such as sitting and lying down in park life, as recorded in the entire observation period in the park. The right image shows those locations of likely occupancy by long-stay passive uses on which designers agreed the most (source: Goličnik, 2005a).

lying down is suggested in settings which are characteristic for their openness. The overall distribution of suggested likely occupancies across types of setting is similar for lying down and those for sitting (see left images in figures 4 and 5). However, a comparison between the intensity of agreement on the most likely locations for sitting and lying down, shows that the designers' perception is that lying down probably is seen as the more vulnerable use. The majority of workshop participants suggested lying down in open, visually linked places, whereas sitting involving either individuals or groups was placed in different and more diverse areas.

Focussing on long-stay active occupancies, the workshops' results are as follows. In general, playing was suggested usually in all the bigger green areas, but also close to the fountain in the centre of the circular designed area (Figure 6). The areas on which the majority of participants agreed the most are the smaller central areas of sizable open patches, defined by inner paths through the park and around the fountain. The bigger areas for playing were suggested in both nearly triangular patches on each side of the main longitudinal way through the park, which have no trees on the lawn's surface. Similarly, sports games were suggested as likely to take place on these last two patches, especially on the western one, but they were mostly suggested on a more central lawn with fewer or no trees. No sports games were suggested for the inner circular area. Comparison between workshop results and results from the observations shows some differences. According to designers' beliefs large green patch with some trees is recognised as conducive to active games. However, the results from observation showed that such activities did not take place there (Figure 7). This was a place for sitting and lying down (Figure 8).

4 Conclusion

In parks where physical limits are well defined, effective environments are easily recognised and realised. Where voids are larger and the physical limits are further apart, uses themselves structure the resilience of the potential environment to become effective for one or more of them. The analyses showed that activities form their own spaces and through them shape places, and that behaviour patterns address usability and/or spatial capacity of a place, and by this reflect the spatial potential for occupancy, and refer to the conduciveness of a space being used. The examination has found that the size and the shape of lawns in parks are not particularly crucial for any passive occupancy, but they are of key importance for long-stay active engagements, especially those participated in by a large number of people. However, quality of edges and articulation of open grassed areas play important roll for passive uses, such as sitting or lying.

A comparison of results from workshops' drawings and the observation records for some conventional long-stay activities shows that the designers located them in the same types of settings as were observed to be conducive to them. Designers' imagination about sitting and lying down relates quite well, in particular to the recorded patterns in the selected

area of the Tivoli Park, as well as reflecting the principles of any such occupancy recorded in other parks. However, spatiality of usage or its distribution upon any such setting has not always shown such clear results. It is exemplified, for instance, in relation to consideration of the extent of active ball games and the number of participants occupying any suggested area (Figure 7).

Although the designers' responses to locating uses in places can generally be estimated as good, one must bear in mind that these results relied on drawings which had achieved an adequate response in terms of the level of accuracy in recognising types of activities as well as in drawing their locations. A sizable number of those which had not been included in the comparison and discussion, referred to weak awareness and a poor level of detail about usage in parks (30%). These latter cases highlight a lack of imagination by designers about spatial occupancies in parks and point to the need for a reference point which might be relied on in any process of decision-making about park design. To achieve successful parks and other open spaces it is of key importance that notions and beliefs of designers, managers, commissioning bodies or clients and users are brought closer to each other. Results also stress that it is of key importance to monitor and record usage dynamic of changes in places and in line with this to interpret them and translate into a successful design practice.

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