

Pinpointing Dream Settings onto Place Cookies

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Dream reports are short pieces of text, where a dreamer summarizes the remembered experience of nightly dreams. Dream cartography addresses especially the spatial information contained in dream reports. In this context, the current formalization of space in GIScience such as points, lines, polygons, or labels, including place names or addresses, is not sufficient for mapping dream settings. In the best case, dream reports mention place names or streets. However, usually, the perception of space in dreams is designated in terms of whether this is familiar or not, inside or outside, safe or threatening. Moreover, basic comparisons between dream settings are meaningless with classic space definitions. This lead us to a different approach of space: the personal circles of places or, with a nickname, the place cookie. Here, the dream setting can be pinpointed at a certain distance from the centre of the cookie, which represents the familiarity of the setting to the dreamer.

Keywords: place cookie; dream cartography; familiarity of place; personal circles of places

1 Background

The research on dream cartography was initially envisioned to bring “new insights, through cartography, into the subject of dreams” (Iosifescu Enescu et al., 2015). However, we have discovered that also cartography and its fundamental concepts, such as representing space and distance, can profit from the insights developed for describing dream settings. Because dream settings are hard to fasten through traditional maps, we have researched other methods for describing the spatial dimension in dreams.

Dream settings are cases of platial data par excellence, as exemplified in Iosifescu Enescu and Hurni (2017). Although people were asked in structured questions about the countries, which appear in their dreams, when it came to open questions, they preferred to respond with dream places: e. g., childhood home, workplace, and holidays resort (Iosifescu Enescu and Hurni, 2017).

As mentioned above, dreams are very personal experiences and our scientific approach, which has the goal to abstract dream content in order to represent it visually, has to deal with many challenges regarding the diversity of the dream content or its description. Therefore, disassembling location not on its objective components, but on its subjective characteristics, on its qualities for an individual, serves the purpose of making places such as the dream settings comparable to each other. We consider the familiarity of a place to an individual, along with its time dependency, to be an eligible measure for settings in general, and not only for dream settings. The same works for social interactions in dreams. Abstracting the names of the persons appearing in one’s dreams and considering only their current relation to the dreamer makes the dreams comparable on social interactions.

In our project, being interested more in the “where” than in the “what” about dreams, we still cannot ignore the “what”, since in dream settings both aspects are highly intertwined. People recognize a place in a dream by certain elements. These can be elements from the natural environment, such as a river, a forest edge or a hill; or from the human-made structural elements such as buildings, specific landmarks, roads, or architectural style. People are also dreaming often about inside locations. Is

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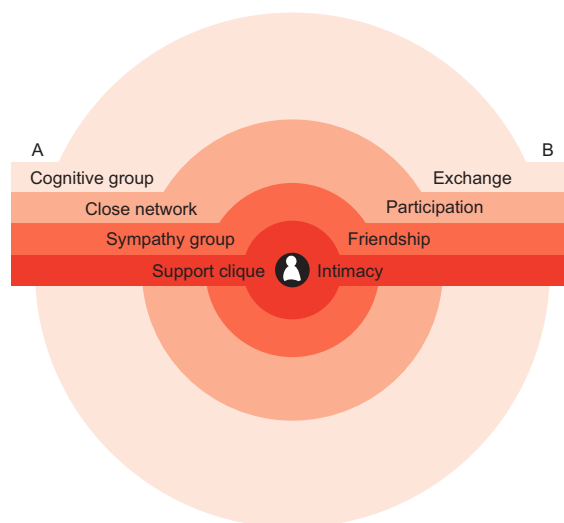


Figure 1: Concentric circles used for modelling the social network of a person. (A) Hierarchically inclusive levels of acquaintanceship by Dunbar (2010), (B) Circles of support by Falvey et al. (1997)

there the furniture, the wall decorations, the arrangement, and dimensions of the rooms, which betray the location? Actually, people are also in real life too little aware of the elements used to recognize a place. A dream setting might seem familiar to the dreamer, however, at times it turns out hard to identify why. Before dream cartography, dream research that considered settings only reported on whether this place was familiar or not, inside or outside, geographical or not (Domhoff, 1996; Strauch and Meier, 1996).

2 The Social Network

Research in sociology and anthropology (Dunbar, 1998, 2010; Hill and Dunbar, 2003) identified the size of the social network in humans to be in average 150 persons (the Dunbar's number), to which people maintain personal contact and this number is consistent to the group size predicted based on the size of the human neocortex (Dunbar, 1993). Moreover, four typical hierarchically inclusive levels of personal relationships were identified depending on the frequency of contact, therefore on the intensity of the relation individuals maintain with their peers.

The group, to which people have the closest contact (e. g., once a week) is the smallest in size and is called the support clique (Dunbar, 1998). It contains the closest friends or family, from whom one would seek advice, support or help. On the next level is the sympathy group, to which people maintain contact at least once a month (and which includes the support clique). Following is the band or the close network (which includes the previous two), to whom one makes a conscious effort to keep in contact. Finally, the cognitive group or the personal network is the biggest in size, and includes the other three groups (Figure 1A). Dunbar (2010) reveals also the expected size of these groups, in number of persons: roughly 5–15–50–150 (therefore increasing in size by a multiple of three). The classification can continue to the Supernetwork (500) or the Language Community (1500). In his book "How many friends does one person need?" Dunbar (2010) refers to these grouping levels as circles of acquaintanceship (Dunbar, 2010, p. 33).

Dunbar's idea of circles of acquaintances goes in the same direction as circle of friends, which has entered the common vocabulary. This other approach of circles in the social relationships evolved from a different perspective and is called the "circle of friends" or the "circle of support" (Falvey et al., 1997). The circle of support is used to create awareness and to actively enhance the number of people in an inner circle, e. g., in case of illness. Here, there are as well four concentric circles (Figure 1B). The innermost is the circle of intimacy and here are the people to whom one has intimate relationships: the partner, the close family. In the circle of friendship are people to whom one has regular contact, friends, and allies. The circle of participation is formed of people seen occasionally, with whom one

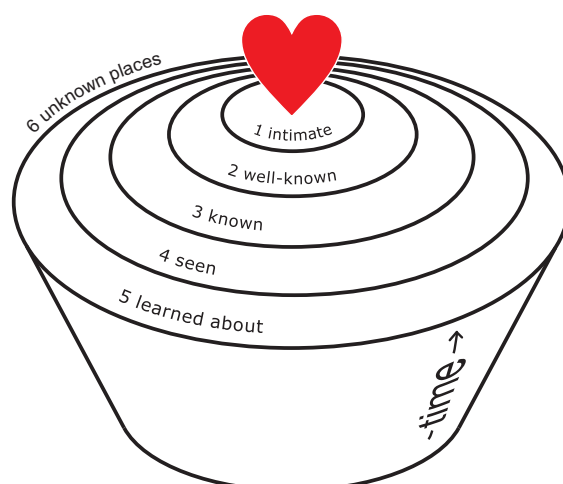


Figure 2: Personal circles of places (place cookie). Measuring places by their subjective distance to one's heart

shares interests: work colleagues, club members, or neighbours. The circle of exchange is concerned with paid relationships, such as doctors, teachers, therapists, cleaning personal, etc. It has been observed that people with disabilities tend to have a higher number of people in this last circle (paid professionals) than in the circle of friendship or in the circle of participation (Pearpoint, 1991). An important difference is that, whereas by Dunbar the number of persons contained in a circle is given in average, by Falvey et al. (1997) the number of persons in the two middle circles may be actively increased in order to achieve more support, become integrated into community and influence the personal wellbeing.

3 The Place Cookie

Analogous to the concentric circles of the social network, we propose the circles of intimacy in the knowledge of space, or the place cookie, nicknamed after its appearance (Figures 2 and 3), but also after the characteristic of saving personal relevant information (Web cookie). In the social relationships, Dunbar designates the innermost circle to have the higher, the outmost circle the lowest frequency of contact. This corresponds to a decrease in intimacy (most intense relations in the inner circle) and at the same time an increase in size towards the outer circle.

Applying this reasoning to places, we have the very familiar places in the inner circle and the less familiar places in the outer circles, outside remaining the unknown places. Examples of very familiar places are the current home, or childhood places – places to which the individual has close, intense relationships. Less familiar, but still well-known are, e. g., the work place, the way to work or to school, friends' homes, or other places people visit often. Next would be, e. g., holiday destinations (some people have a map with pinpoints on it) or other places, which have been seen only once, or did not occupy the memory, the attention for a long time. Places we learned about, but we have never been to, would be in the outer circle. Unknown places would be outside. To situate a place onto the personal circles of places (onto the place cookie), we propose an ordinal rating scale. The individuals will answer the following question, rating their familiarity/intimacy to a place on a scale from 1 (very familiar) to 6 (totally unfamiliar). For each number on this scale we also give a qualitative description (e. g., intimate, such as home) to make the rating easier and to make sure that the answers of different individuals can be compared in the end.

How do you rate your intimacy (your relationship) to this place?
(1 – very close to 6 – no relationship)

1. Intimate (such as home),
2. Well known (such as the work place or school class, the way to work or to school),
3. Known (places you often go to: a nearby park, the fitness studio, etc.),

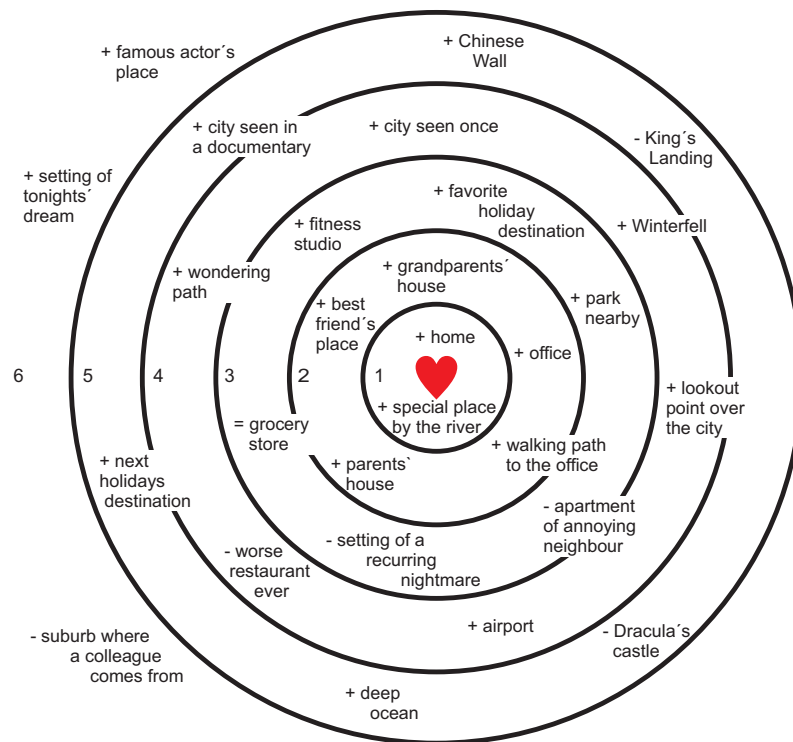


Figure 3: Example of a filled place cookie

4. Seen (such as a one-time holiday destination),
5. Learned about (read in a book, seen in pictures, maps, etc.),
6. Unknown – outside the concentric circles.

On the place cookie we can visualize the familiarity of a single place, but also the platial difference between two places. Yet the rated familiarity is an ordinal measure and the intervals between the circles are not necessarily equal. Therefore comparisons (e. g., a place is more familiar than another) are allowed; differences, however, are to be enjoyed with caution (e. g., the difference in familiarity is 2 points). To make it more comprehensive: this scale is similar to the school grades (both are of ordinal type).

Regarding the time dimension, we envision a deepness of the place cookie, the upper layer representing the current situation. With time, a place can undergo an upgrade in familiarity to a more inner circle, depending on the emotional intensity with which that place is being experienced; but this can happen also based on the changing function of that place over time (e. g., new workplace, new home). An old workplace, an old home, etc. gets a time stamp and moves into the deepness of the place cookie. Another example regarding a change in the function of a place to an individual is when an old home becomes the home of a friend. Here we can notice that a real, physical place can appear twice on the personal circles of places. In the former example there are two instances of the same place: one in the most inner circle, with a “past” time stamp, and one in its current situation. Moreover, the classification of places in the place cookie may include virtual, fictional places (imagined, watched movies, read books, explored on pictures or maps, experienced in virtual games and reality) and these can be part of any circle, depending on the relationship of the individual to them.

In the previous, merely positive relationships to a place were mentioned. The question remains open, if negative relationships to a place (e. g., a place where the person had a car accident or where he or she suffered mobbing, etc.) belong in the same circles as the positive ones – so only based on the intensity of the relationship and ignoring its valence. This would be analogous to having one’s enemies in the same circle as one’s friends. Making a trade-off between the valence and the intensity of the emotions (arousal) related to a place, we can keep it simple and consider only the intensity, the familiarity of a place to an individual. Figure 3 shows places that can be familiar (from 1 to 6) and



Figure 4: Map using the place cookie as symbol for spatial locations. Map © OpenStreetMap contributors (cf. www.openstreetmap.org/copyright)

in their valence positive (with +), negative (with –) but also neutral (with =) to a person. However, a study on virtual world-games (Holovatch et al., 2017) shows that the development of an enemy list has a different dynamic than a network of friends: characters with more enemies being more likely to attract other enemies, which does not hold for friendship or communication relationships. If other mechanisms are in place for remembering negative emotions relative to places, the simple solution could be to draw two place cookies: one for positive and one for negative emotions related to the place. The familiarity of places is then distributed on two place cookies.

4 Example of Application in Dream Cartography

A dream setting may be named by the place name, e. g., “Helvetiaplatz”, by its significance to the dreamer, e. g., “a place where I pass by with the bus every work-day and never stop”, or both at the same time. When this happens, we take advantage and place our place cookie with the interpreted familiarity (this would be, e. g., 4 in this case) on the city map. If the dreamer mentions her office and its location (e. g., ETH Zurich main building) in the same or in another dream, we can calculate the appearance of the place cookie for the office (e. g., 2) and place it on the same map at its spatial location. This results into a map (Figure 4), where both the spatial distance between the two places, and the platial difference of these places for the dreamer can be represented, in terms of familiarity, using the place cookies.

Another application of place cookies in dream cartography is in visualizing dream series. It allows, e. g., an aggregation of all dream settings in only one place cookie, showing the occurrence of places with different familiarity in a person’s dreams. It also makes possible to display the evolution of a place regarding its familiarity in a dream series. Moreover, comparisons of places in dreams between different individuals may be performed and are easier to visualize: e. g., the nightmares of the person A take place more often in unknown than in familiar locations, whereas those of the person B take place usually in very familiar locations.

5 Conclusions

To dream cartography, the classic distinction between space and place is relevant: the place has a specific meaning for a person, whereas space is general, with no implied reference to an individual. More precisely, the place is the space directly experienced by the people (Tuan, 1977). A taxonomy of

such places is given (Figure 2), where these are described with their qualities for an individual and, even if labeled (such as “Winterfell” or “Dracula’s Castle”) as shown in Figure 3, they imply a certain significance for the individual.


Using place cookies, dream settings become comparable. If a person dreams that she was at home and in the next dream scene in an unknown city, the difference, the distance between these two places on the place cookie is the biggest possible. If two dreamers dream being at the workplace, respective at the school, then the dream settings are quasi the same, situated on the same distance from the person’s heart, even if the mentioned workplace is in one country and the mentioned school in another. The pinpointing of dream settings over time on the place cookie is both easier to achieve and meaningful, making abstraction of sensitive (where is home) and at the same time data intensive information (at which time is the location how familiar; using only the date when the dream occurred). Therefore, if a person dreams about a virtual world after one evening of playing a virtual game, this points to a certain distance on the place cookie (e. g., 5 or less), but if it happens after a whole year of playing the same game, this distance decreases. Moreover, this virtual world place becomes comparable, on the place cookie, to a real place that appears in a dream of this person.


Similarly to the circles of support, through dream cartography we can notice, if in a dream series (reported dreams of one person in an uninterrupted interval of time) some inside circles are not enough occupied. On this bases we could recommend a more intensive contact and interaction to specific places and therefore support the upgrade of places in the place cookie from the position 4 (seen once) to 3 (known) or from 3 to 2 (well-known), and ultimately increase the wellbeing of an individual.

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