

Place Representation as a Prerequisite to Place Communication

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Places can hardly be formally represented in such way that their qualities can be experienced from the representation itself. Places are therefore currently largely inaccessible to formal methods, which is one of the reasons why Platial Information Theories and Platial Information Systems do not yet exist. This paper discusses the possibilities that a shift to a communication perspective offers in terms of a better understanding of platial information. In particular, it argues for the need to create a corpus of place representations to study them empirically. Such a corpus can be expected to facilitate a deeper understanding of the mechanisms that are effective when representing places as well as how place representations can be transformed into other place representations.

Keywords: place; representation; communication; information; pragmatism; corpus

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1 Introduction

There are different types of representation being used for different purposes. Among them are representations that only provide a mere reference, such as place names in the case of places, as well as representations that communicate a sufficient number of aspects of the represented object such that the recipient can develop a more complex idea of it without having access to it him or herself. In the latter case, the object represented, such as a place, is *mediated* (Mocnik, 2023a), as is the case, for instance, with the detailed description of his home in *Ulysses* by James Joyce (Joyce, 2000), to which the main character, Leopold Bloom, regularly returns and experiences everyday moments of his life. This representation can only be fully understood by humans (as opposed to machines) because only they understand the content of the description and can place it in the context of their own experience. The description of the home in *Ulysses* is thus a mediating representation in the context of human interpretation. Formal methods, on the other hand, only have access to the words, the sentence structure, and alike, thus only make referencing possible. The bigger picture enriched by and referring to personal experience is, however, omitted.

Geometries can be represented formally, e.g., as points, lines, or polygons (cf., Simple Features; International Organization for Standardization, 2004). Such a representation mediates qualities of the geometry in the sense that a Geographical Information System (GIS) can easily reason with it. Since geometries, potentially enriched with thematic information, can be represented formally without difficulty, it is possible to utilize such representations (or the result of considerations that include them) for enabling communication. For example, we survey footprints of houses and streets as well as city and country boundaries to then import them into a GIS and map them for communication purposes, potentially together with derived information. The use of such mediating representations seems useful for communication purposes whenever they appear straightforward and effortless in spite of their richness.

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Representations of places, contrary to those of geometries, cannot be mediating in the context of computational interpretations, or only to a very limited extent. In fact, many qualities of places seem to elude formal representation, such as the sense of place (Kyle and Chick, 2007; Tuan, 1977, 1979), the experience of a place (Malpas, 1999), and resulting place attachment (Agnew and Duncan, 1989; Low and Altman, 1992; Tuan, 1977). Even the place ballet is sometimes perceived differently for an existing place than what a representation of the trajectories might convey, such as in terms of the different ways in which paths are travelled and what meaning they have (Seamon, 1979; Seamon and Nordin, 1980). Accordingly, the question arises of how information about places can be systematically investigated and understood with a focus on the qualities of a place. To this end, we will discuss why places are difficult to mediate through formal representations (Section 2) and what alternative possibilities a focus shift towards the communication about places offers (Section 3). Subsequently, references to and representations of places are discussed as building blocks of such communication (Section 4). Finally, the creation of a corpus of place representations is proposed and corresponding challenges and prospects outlined (Section 5).

2 Mediating Places Through Formal Representation

It seems obvious to think of information about places as a direct reflection of platial qualities. If we could formally describe and quantify these qualities, such as the sense of place and the identity of a place, then we could describe the expression of a place through corresponding data. Similar to how a physical system can be described by suitable measurements¹, a place would then be sufficiently well described by these data. The interpretation of the data would in this case yield detailed information about the place and at least partially replace personal experience.

Possible ways of approaching information about places in this way must inevitably face the question of how a corresponding concept of place looks like and how it can be formally construed. For example, vocabularies developed by political instances (e.g., UK Parliament, 2023), approaches related to location-based services (e.g., Antunes et al., 2008), and many further approaches to ontologies of place have been discussed (cf., Ballatore, 2016). A comprehensive answer to the question would be tantamount to formalizing one and potentially even unifying several concepts of place. However, this seems inadequate from the geographical viewpoint, both due to the high complexity inherent in these concepts, which has so far made formalization impossible even within the discipline of geography, and due to partial incommensurabilities (Mocnik, 2022).

Previous statements could be misunderstood in that information about places could not exist. In fact, what is being questioned is merely whether formal perspectives can effectively provide a holistic view and mediation of places. The temperature distribution in a place, where shadows are located, and how many people regularly interact in and with the place can be measured. Corresponding data can be created and kept available, and their interpretation provides some impression of individual properties of the place. However, in most cases, what constitutes the place cannot be captured in this way. In particular, embodied experience cannot be measured and expressed through data, thus rendering a holistic view almost impossible. Formal methods for generating information about places, such as computer-based methods, can therefore only be used to a very limited extent for the mediation of places². Examples of corresponding shortcomings have been discussed, for instance, by Mocnik (2022).

3 Communication Perspective: Transforming Place Descriptions

If we cannot understand how to mediate places by formal methods to the degree necessary for many applications, we may resort to the *communication* about places. In this case, the question of how we communicate a place substitutes the question of what information about it looks like. What seems to be only a small difference – after all, we can understand communication as the transmission of information – leads to a clearly different perspective. This perspective is not characterized by the complete and holistic representation of places by means of data but by the *pragmatic* consideration of generating the desired image of the place in the recipient's mind. What is communicated is solely subordinate to the success of the image conveyed.

There exist numerous and diverse examples of such communication (Mocnik, 2023b). We can link information conveyed through language, images, music, models, and many other forms of representation with our previous personal experience. In this way, successfully communicated images of a place emerge. Even if it still seems unclear how exactly this process is shaped in the context of place, many examples of such communication seem to be effective (Mocnik, 2023b). In many cases, we can infer what constitutes a place from individual facets, mundane habits, and narratives about the place. The idea of portraying a place through the most complete possible description by measurable variables and mediating it in this way is replaced by the success of communication.

The perspective of communication about places builds on the transformation of place representations. The perspective of formal representation to mediate places assumes that we can generate information about places by both examining existing places and planning non-existing or not-yet-existing places. In both cases, we have an influence on which spatial qualities we mediate. It is the decision of the person generating the information how to mediate. The communication perspective promoted here, in contrast, considers *what information is actually communicated* about places in *existing* examples of communication. The researcher's conscious decision about how to represent by formal methods gives way to the idea of using existing communication, often with unconscious choices, as a blueprint. Accordingly, the communication perspective must focus on how spatial information experiences different interpretations between the context of the sender and the context of the receiver in examples of existing communication. An influence of these contexts seems incomprehensible and a transformation of the place description the rule, at least as long as personal experiences and sensations play a role.

The transformation of place descriptions is not only an often undesirable side effect of communication, but it can also be seen as one or even the only possibility to influence communication about places. The information sent could thereby be altered according to suitable formal rules such that it can be interpreted in a meaningful way again. Similar to a search engine, which summarizes web pages in suitable ways and then displays them, and a GIS, which creates an analysis based on existing data and communicates the results with the help of a map, information about places can be altered through transformations in such ways that this change in communication constitutes an added value with respect to some application. For example, high heterogeneity of place descriptions can be an issue when writing a travel guide. If the descriptions are modified such that they represent the places as touristic and such that they are of the 'representation-as a touristic destination' genre (Mocnik, 2023b), then they may be better understood and more useful for the travel guide. Also, by means of suitable transformations, the descriptions could be altered to be better understandable for those who have not yet visited and experienced the place themselves. The focus here, however, is not on the descriptions but on the transformations, which have their origins, similar to communication, in pragmatics.

The question of how a place develops under the influence of climate change is another example of a situation in which transformations play a role. We can describe both the current place and also the still fictitious, future place as it is affected by climate change. However, the latter cannot be experienced in the real world; we can only resort to an estimate extrapolated from our current and past experience. If formal methods of reasoning are to support the understanding of such a future place as well as corresponding possibilities for development, then the (automated) transformation of the current place description appears to be an obvious possibility. The description of the current place would then be transformed into a description of the possible future place. Even if embodied experience, among others, remains hidden from formal methods, the latter can alter its description in such a way that the receiver can well imagine how the place will change under the influence of climate change. It is beneficial here that the receiver can in the ideal case, but in any case if the sender and receiver are identical, refer back to his or her embodied experience. In order to better understand such transformations on the levels of places and of information and to be able to practically name their benefits, it seems indispensable to study many examples of places and their successful representation beforehand.

4 Understanding Reference to and Representation of Places

The communication perspective focusses on what is practically communicated in order to convey places. It is not the representation constructed in the academic context that plays a role here, but the observable mode of communication. The signs used in the communication process can be understood

as representations of places and their qualities too, for instance when the atmosphere of a place is described. In contrast to representations constructed by formal means, however, human communication is potentially based on different premises, employs different forms of representation, and communicates different selections of aspects. Representations and their various forms are thus, in a sense, the building blocks of communication.

Contrary to the idea of formally representing places and their qualities, the context of the sender and receiver plays a decisive role in communication, such as when previous experiences and other previously visited places are taken into account in the interpretation of the communicated signs. However, there has been little research into what exactly this interplay of places, signs, and contexts looks like. A better understanding would presume the empirical analysis of successful communication in order to better understand the mechanisms behind its effect. This particular importance of empirical approaches particularly derives from the fact that the mechanisms to represent are often more complex than the mere referencing of a place, where the communicated sign is assigned a meaning by denotation³ and for that reason alone becomes a representation.

An example of a more complex representation is the mode of *representation-as*, which combines several more basic modes. In case of *representation-as*, the representamen denotes some place P while also representing some other 'intermediate' place Q , some of the qualities of which are exemplified by this representation and subsequently imputed onto the very place P (Mocnik, 2023b). These qualities define what the place P is represented as. As an example, a model of the Tower Bridge sold as a souvenir represents London as a touristic destination, because it denotes London and because it represents the place of the Tower Bridge by exemplifying its quality of being touristic through the use of vibrant colours, cheap production quality, and the fact that it is sold in tourist shops. These qualities of the place of the Tower Bridge are then imputed onto London, which is, in consequence, mediated as a touristic place.

5 Discussion and Conclusions

In order to advance the analysis of place representations in accordance with the communication perspective, it is necessary to empirically examine a number of examples. This raises the need to establish a corresponding *reference corpus*⁴ that contains semantically prepared examples of place representations. The corpus would be helpful in several respects: (a) the contained representations would be able to serve as reusable examples; (b) the open and permanent accessibility makes possible to reference these representations; and (c) it makes possible the analysis of the structure of the included representations and the identification of commonalities among these. Ideally, the corpus and the communication captured in it can provide indications of how place representations are typically created and transformed in a given context. In this way, the corpus has already (as part of an ongoing research effort to create such a corpus) and will continue to enable and stimulate disciplinary and interdisciplinary research, as it facilitates the intellectual exchange about place representations and their common (and differing) modes of action.

Creating a corpus of place representations is complex and time consuming. In order to include the corresponding representations in the corpus, they must first be represented themselves. This requires the development of a suitable framework, including appropriate concepts and definitions as well as vocabularies and methods that reflect these concepts. Subsequently, a meaningful selection of place representations must be made to then represent and included these in the corpus. The intensive analysis that takes place in this process of creating the corpus can already be expected to offer numerous opportunities for significantly improving our understanding of place representations.

The opportunities offered by such a corpus are accompanied by a number of challenges and risks. First of all, the corpus is limited by the fact that only representations of place representations can be included. Access to the place representations is therefore only possible indirectly, which makes some ways of analysis more difficult or even impossible. Beyond this, the diversity of place representations poses further challenges. For example, there is a risk that personal and more intimate place representations are underrepresented because they are less accessible. Also other biases in the representation seem unavoidable while having an impact on the subsequent analysis. In any case, knowledge from a variety of domains is required due to the diversity of existing place representations, but this would also contribute to the strength of the corpus.

Notes

1. This is of course not fully possible in all cases, among others due to Heisenberg's uncertainty principle.
2. This problem applies not only to places, but also to many other things, many of the qualities of which cannot be experienced from simple and formal representations either. Places and corresponding information can, however, in some ways be seen as prototypical for this problem due to their inherent richness and complexity.
3. Denotation is one of the two primary modes to establish reference according to Elgin (e.g., 1983, 2009, 2010) and Goodman (e.g., 1984). An overview can be found in an article by Frigg and Nguyen (2017).
4. The author currently implements such a corpus.

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