

(Un)Represented Places – A Case Study of Two Sports Venues in Gelsenkirchen and Dortmund

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Maps represent a host of geographical features, but places are usually not among those depicted in detail. This is despite the various functions of a map, many of which refer to places as the common context in which geographical features are used, receive meaning, and even gain identity. Using the example of two sports venues, this paper explores the ways places implicitly influence what information is represented on a map and how it is represented, even if the places themselves are not represented. The findings presented suggest that the interpretation of maps rely partly on the way we perceive places and thus highlight the need for further research related to the interpretation of maps. This way of thinking may, in the long term, help to identify better ways in which places can be represented on maps.

Keywords: cartography; representation; place ballet; identity; affordances; OpenStreetMap

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1 Introduction and Related Work

Places are described by a variety of characteristics, many of which can hardly be directly represented in a map. For example, the experience of a place (Malpas, 1999) and the resulting place attachments (Agnew and Duncan, 2015; Low and Altman, 1992; Tuan, 1977) are difficult to represent, and the sense of place (Kyle and Chick, 2007; Tuan, 1977, 1979) is not easy to convey. Other qualities, however, such as the place ballet (Seamon, 1979; Seamon and Nordin, 1980) taking place, are far better represented, even if the complexity of the place ballet with regards to the habits, routines, and the environmental affordances that define it seems to exceed that of a map. An overview of the many qualities of places can be found in works by Cresswell (2004) and Hamzei et al. (2020).

As opposed to the view that places are difficult to represent on a map, Casey (2002) argues that maps relate to embodied experience and are more than collections of geometries, which is why they are capable of conveying places. In an extreme form, even odour can, e.g., be conveyed in addition to visual stimuli (McLean, 2013). The mediation of places is thereby supported by narratives, and narratives mostly presuppose places, according to Pearce (2008). To this end, it is advantageous to also employ paradigms beyond the traditional ones (Mocnik and Fairbairn, 2018). How particular characteristics of places can be conveyed has been studied in more detail by Glebova (2021) in case of potentially overlapping areas and their fuzzy boundaries; by Harvey (2020) in case of place ballets; and by Dolma (2021) in case of place identity. However, not only can places be represented in a map but our experience of places can potentially also be traced through map contributions (Mayer et al., 2020; Mocnik, 2020). Besides the descriptive qualities of maps, also the ‘ability to change the way we think about and act upon places’ and thus prescriptive and performative qualities have been discussed (Aalbers, 2014a,b,c).

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In this paper, we use two traditional football clubs and their stadiums to study how qualities of places become manifest in the map, in our case OpenStreetMap¹ (OSM), and how places suggest different mapping behaviours. For this purpose, we focus on the venues of the *Fußballclub Gelsenkirchen-Schalke 04* (S04) and the *Ballspielverein Borussia 09 Dortmund* (BVB)², because they are mapped differently despite their spatial proximity in the Ruhr as well as located in a similar environment. The two clubs are also among the football clubs with the largest membership worldwide and convey correspondingly strong identities.

2 Two Examples of Places

In this section, we discuss two idiographic examples of places: the sports venues *Veltins-Arena* in Gelsenkirchen and the *Signal Iduna Park* in Dortmund (Figure 1).

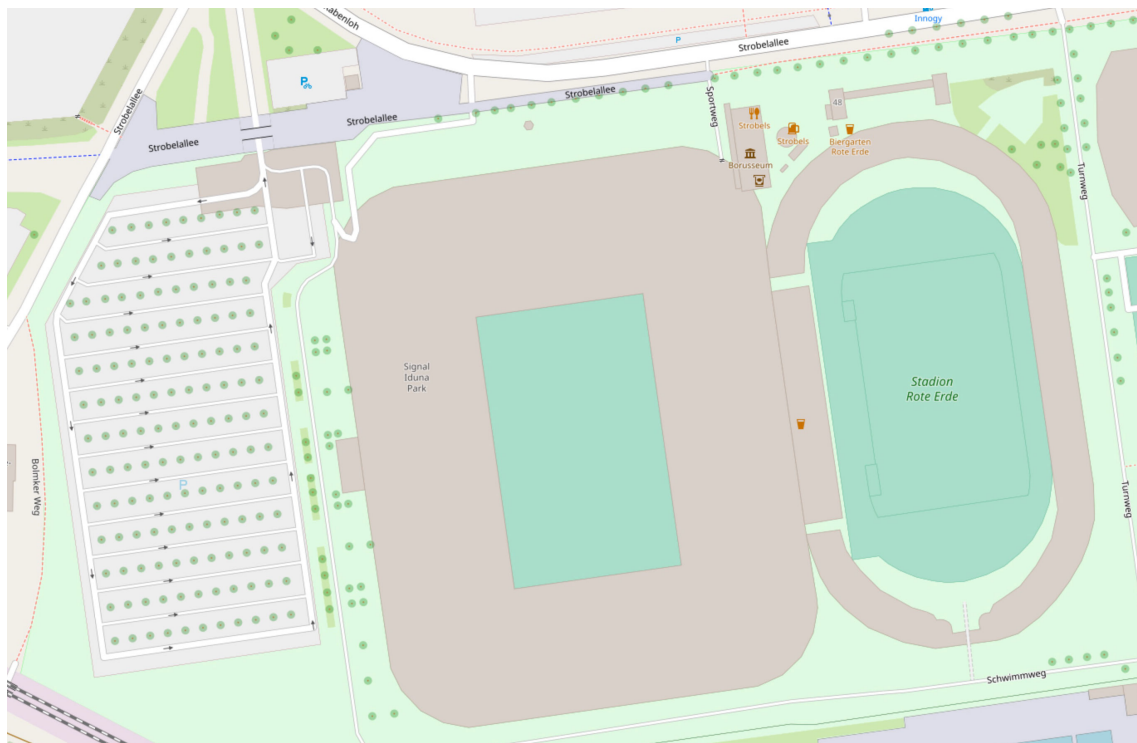
Veltins-Arena in Gelsenkirchen. The traditional football club S04 practices, plays, and ‘lives’ in the area *Arena Park* in Gelsenkirchen. This area houses several training grounds, car parks, the large stadium *Veltins-Arena* as well as a state school, a swimming pool, and further facilities. These geographical features are represented in OSM and shown on the map, but obviously the place is more than this set of physical features. The combination of the features on the map, their geometry, and their naming, however, gives us an idea of this place, as we will argue in the following.

The significance of the place for S04 supporters is enormous, especially as numerous supporters flock to their football club at the weekend. There are several references on the map that highlight the corresponding identity and significance, especially from days gone by. Although the *Parkstadion*³, which shaped the experience of watching the club play for decades, has since been demolished and replaced by the Veltins-Arena, various streets still point to its former existence. The *Parkallee* and the *Stadionring* are both arranged in an elliptical shape around the former Parkstadion and point to its still identity-forming function, which has now been taken over by these two streets. Analogously, the *Arenaring* assumes this function for the new stadium. The street names *Ernst-Kuzorra-Weg*, *Stan-Libuda-Weg*, *Rudi-Assauer-Platz*, and further ones can be found on the map. They are also reminiscent of past times by carrying over the identity shaped by former players and managers into current times. In addition, four major streets border the Arena Park, as is clearly shown on the map, which suggests that when crossing these very streets, the sense of entering this place arises.

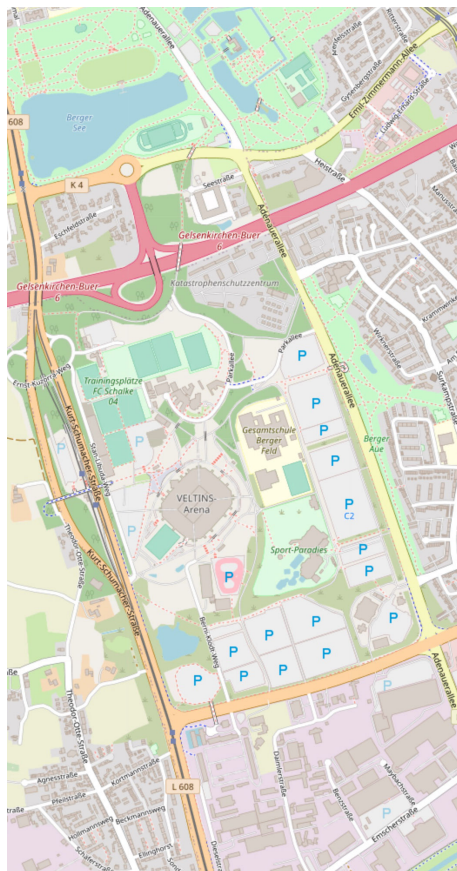
Not only the previously discussed identity-forming function can be discerned by the map. Also, the place ballet performed at every home game can be surmised. The parking spaces, many of which are mapped individually, can be understood in this context, as well as the several paths that lead radially to the stadium to direct the streams of visitors. This provides an idea of the way in which the football supporters who have travelled to the stadium move towards it in order to watch the game. Many further details are included in the map, especially in the immediate vicinity of the Veltins-Arena, such as artwork, benches, guideposts, surveillance cameras, ticket offices and gates, et cetera. These details may be missing on the map in other contexts but here they provide an impression of the environment in which the supporters wait for the game. Much of the infrastructure shown is focused on the accessibility of the stadium and barriers such as fences are completely absent from the representation. The geometry of the stadium is depicted in equal detail and provided with a correspondingly extensive semantic description by means of tags. It is thus apparent that the stadium has a special significance and therefore forms the highlight of the place ballet.

Signal Iduna Park in Dortmund. As in the previous example, the map representation of the *Signal Iduna Park* in Dortmund (previously *Westfalenstadion*) and its surrounding area suggests a special meaning, various affordances, the taking place of a place ballet, and even an identity-forming effect. Immediately adjacent to the Signal Iduna Park, the venue for the home games of the BVB, is the *Stadion Rote Erde*, which was previously used by the BVB but is now a multipurpose sports facility.

The two stadiums strongly differ in their significance: one is the identity-forming home of the BVB as well as the pilgrimage destination for the fortnightly major football event for several tens of thousands of supporters, while the other is used by athletes to train and compete. This difference manifests itself in the way these stadiums are described semantically and geometrically as well as in very different mapping behaviour. The Signal Iduna Park is, for instance, semantically described by 23 tags, while the Stadion Rote Erde by only 6 tags in its entirety, the same number as the BVB training facility.



(a) Signal Iduna Park and Stadion Rote Erde, Dortmund



(b) Arena Park, Gelsenkirchen



(c) Veltins-Arena and former Parkstadion, Gelsenkirchen

Figure 1: Two sport venues in Gelsenkirchen and Dortmund. Copyright by OpenStreetMap contributors (cf., www.openstreetmap.org/copyright)

This is despite the fact that the spatial mapping context of both stadiums is identical and therefore both stadiums could potentially be described in a similarly differentiated way. Information about the address, the name in different languages, the building date, and other attributes are missing in case of the smaller stadium. In contrast, various features inside the Stadion Rote Erde are represented on the map, such as the football pitch, a grandstand, a beverage outlet, long jump facilities, and several running tracks; in case of the Signal Iduna Park, only the football pitch is drawn while the grandstands, beverage outlets, and further features remain unmentioned.

It is interesting to consider the mapping behaviour in the wider context of the area in which the two stadiums are located. The Stadion Rote Erde is primarily of interest for practical use as a sports facility and therefore mapped in terms of that function. The charged meaning of the Signal Iduna Park, which is reflected in the comprehensiveness of the semantic description, is also reflected in the level of detail of the surrounding area on the map. In contrast to the semantic description of the stadium, however, the focus here is on the representation of many individual features, such as various pubs to visit after the game, an information board about the place, more than 200 individual trees, and even 15 manholes. The geometric representation of the *Strobelallee* directly in front of the Signal Iduna Park is also detailed, as many supporters meet there before the match; however, this is not the case for many other streets in the area that do not have the same role in relation to the place ballet. As the example of the Signal Iduna Park, the Stadion Rote Erde, and their surrounding areas shows, not only can the place itself be inferred from what is represented but the place itself influences the way in which geographical features are mapped.

3 Discussion and Conclusion

Places are usually not explicitly represented on a map because it is unclear how to represent many of their qualities at all. However, as we have argued with the example of the two sports venues, both the mapped features themselves and the way they have been mapped are indicative of places as complex entities. The map readers can thus recognize the places and to some extent even construct them independently of their own experience. These examples also demonstrate how fluid the boundary is between how *what is mapped* conveys information about the place (e.g., the name ‘Ernst-Kuzorra-Weg’) and the conclusions we draw from the *mapping behaviour* (e.g., related to the semantic description and the geometric representation). It is impossible to clearly demarcate one from the other.

Although it is indeed possible to convey places by means of a map, the inclusion of idiosyncratic sensations is often not intended, as can be seen in the example of OSM and its folksonomy, because it can lead to ambiguity and misinterpretation of the map. Yet, the difference in meaning and size of the Signal Iduna Park and the Stadion Rote Erde can be meaningfully interpreted despite the unexpected non-uniform representation, in particular of the labels (cf., Figure 1a). Possible explanations for the interpretability are the important role of geometry in the representation and that the semantic information transported by tags is not immediately apparent on the map in its entirety. The coarse granularity of the OSM folksonomy and potential prior experience are further possible explanations (Mocnik et al., 2017).

In the two case studies of this paper, identity is largely conveyed through the history of the clubs and associated with the place. Many more examples would need to be studied in order to conclude how identities and mapping behaviour are linked in a systematic way. This would, in turn, lay the basis for exploring how identities and place ballets can be better represented on the map, such as in case of the place ballets taking place on a match day in Gelsenkirchen and Dortmund. In the long term, this could lead to more individual representations that adapt to the various map readers and points in time.

Notes

1. It should be noted that OSM differs from many other mapping projects in that we can access the history of the data, which limits this case study. We refer to the status of 9 October 2021.
2. The first author of this publication has first-hand experience with these places.
3. The Parkstadion itself has replaced the *Glückauf-Kampfbahn* as the venue for home games.

Author Contributions

FB Mocnik and L Kühl have developed the main idea, conducted the analysis, and interpreted the results jointly. FB Mocnik has drafted the manuscript. L Kühl has revised the text thoroughly.

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References

- Aalbers, Manuel B: *Do maps make geography? Part 1: redlining, planned shrinkage, and the places of decline*. *ACME: An International Journal for Critical Geographies*, 13(4), 2014a, 525–556
- *Do maps make geography? Part 2: post-Katrina New Orleans, post-foreclosure Cleveland and neoliberal urbanism*. *ACME: An International Journal for Critical Geographies*, 13(4), 2014b, 557–582
- *Do maps make geography? Part 3: reconnecting the trace*. *ACME: An International Journal for Critical Geographies*, 13(4), 2014c, 586–588
- Agnew, John A and Duncan, James S (eds.): *The power of place. Bringing together geographical and sociological imaginations*. London, UK: Routledge, 2015. doi: 10.4324/9781315848617
- Casey, Edward S: *Representing place. Landscape painting and maps*. Minneapolis, MN: University of Minnesota Press, 2002
- Cresswell, Tim: *Place. A short introduction*. Malden, MA: Blackwell, 2004
- Dolma, Ceren: *Reclaiming place through marginalized narratives. A critical geography and humanistic approach to the cartographic visualization of Beyoğlu, Istanbul*. Master's thesis, University of Twente, Enschede, the Netherlands, 2021
- Glebova, Milana: *Town and gown: visualising university neighbourhoods as places within the urban environment. The example of three universities in Moscow*. Master's thesis, University of Twente, Enschede, the Netherlands, 2021
- Hamzei, Ehsan; Winter, Stephan; and Tomko, Martin: *Place facets: a systematic literature review*. *Spatial Cognition and Computation*, 20(1), 2020, 33–81. doi: 10.1080/13875868.2019.1688332
- Harvey, Luke: *Improving the cartographic visualization techniques of platial features – the example of London parks*. Master's thesis, University of Twente, Enschede, the Netherlands, 2020
- Kyle, Gerard and Chick, Garry: *The social construction of a sense of place*. *Leisure Sciences*, 29(3), 2007, 209–225. doi: 10.1080/01490400701257922
- Low, Setha M and Altman, Irwin: *Place attachment. A conceptual inquiry*. In: Altman, Irwin and Low, Setha M (eds.), *Place attachment*, New York, NY: Plenum, 1992. 1–12. doi: 10.1007/978-1-4684-8753-4_1
- Malpas, Jeff E: *Place and experience. A philosophical topography*. Cambridge, UK: Cambridge University Press, 1999
- Mayer, Maren; Heck, Daniel W; and Mocnik, Franz-Benjamin: *Shared mental models as a psychological explanation for converging mental representations of place – the example of OpenStreetMap*. *Proceedings of the 2nd International Symposium on Platial Information Science (PLATIAL'19)*, 2020, 43–50. doi: 10.5281/zenodo.3628871

- McLean, Kate: *Smell map narratives of place—Paris*. New American Notes Online, 6, 2013
- Mocnik, Franz-Benjamin: *Tracing mental models in cartographic datasets – the case of OpenStreetMap*. Abstracts of the International Cartographic Association, 2(5), 2020. doi: 10.5194/ica-abs-2-5-2020
- Mocnik, Franz-Benjamin and Fairbairn, David: *Maps telling stories?* The Cartographic Journal, 55(1), 2018, 36–57. doi: 10.1080/00087041.2017.1304498
- Mocnik, Franz-Benjamin; Zipf, Alexander; and Raifer, Martin: *The OpenStreetMap folksonomy and its evolution*. Geo-spatial Information Science, 20(3), 2017, 219–230. doi: 10.1080/10095020.2017.1368193
- Pearce, Margaret Wickens: *Framing the days: place and narrative in cartography*. Cartography and Geographic Information Science, 35(1), 2008, 17–32. doi: 10.1559/152304008783475661
- Seamon, David: *A geography of the lifeworld*. London, UK: Croom Helm, 1979. doi: 10.4324/9781315715698
- Seamon, David and Nordin, Christina: *Marketplace as place ballet. A Swedish example*. Meddelanden från Göteborgs Universitets Geografiska Institutioner Serie B, 67, 1980, 35–41
- Tuan, Yi-Fu: *Space and place. The perspective of experience*. Minneapolis, MN: University of Minnesota Press, 1977
- *Space and place: humanistic perspective*. In: Gale, Stephen and Olsson, Gunnar (eds.), *Philosophy in geography*, Dordrecht, the Netherlands: Reidel, 1979. 387–427. doi: 10.1007/978-94-009-9394-5_19