Mapping and photo documentation
Proposal for a space-sensitive mixed methods design using the example of retail mapping

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In the context of spatial research, mapping is a classic strategy for generating primary data on the spatial location and characteristics of the entities under investigation. It constitutes an essential part of many disciplines—including social and natural sciences—such as in human and physical geography, urban and regional planning, soil science, geomorphology, and geology. Typical application areas range from the surveying of vegetation to the expansion of public transportation infrastructure in towns and cities. Similarly, photographic images have—to a varying extent—been incorporated into a wide range of research projects since the advent of photographic technology. Since the emergence of debates on *visual culture* (Rose 2007: 4 et seq.), extensive disciplinary and interdisciplinary attempts have been made to theorize the relevance of images for social cohesion and to highlight the value of their inclusion in scientific research projects.

Using the example of a comparative survey of retail landscapes, we would like to outline the key processes involved in mapping. We will also show how the inclusion of photo documentation can help to generate additional information to complement data obtained from maps: a method we refer to as a "space-sensitive mixed methods design." The parallel adoption of both methods provides data in order to combine conclusions of a functional-structural nature (where the focus is on the surveyed *area*) with those of a symbolic-distinctive nature (where the focus is on the surveyed *entity*) and therefore constitutes a relational approach to space in which different analytical perspectives can be compared with each other.

1 Mapping

In the broadest sense of the word, mapping can be understood as a structured method of observation (Wessel 1996) that is tailored to the research topic and typically features highly systematic and standardized processes (Behnke et al. 2010: 259). It is thus pri-

marily a quantitative method that involves surveying certain entities within a designated area in the context of a spatially related question. During this process, the locations and characteristics of the predefined entities/objects[1] are recorded on one or more specified dates within a clearly defined area. Data can be documented on a topographical map with precise coordinates (often supplemented with GPS coordinates) or on a mapping sheet (see below). Whereas in the past only printed versions were used, it is now possible to carry out such surveys completely with digital tools (e.g., KoboToolbox).

In general, numbers and quantitative data, as they are collected through mapping, are particularly effective at increasing the acceptance of arguments and facilitating comparability (*"numerical difference,"* Heintz 2010: 167, own translation). The value of mapping lies in its ability to spatially locate objects and thus present special spatial arrangements and relationships in a way that goes beyond mere numbers and statistics (Cromley 2013: 118). Data obtained from mapping can also be presented visually on maps or evaluated with statistical methods, for example, by using geoinformation systems (e.g., *QGis* or *ArcGis*) or statistical software (e.g., *R* or *SPSS*). In addition, the collection of data also requires categories to be created, which reduces complexity. This makes it possible to differentiate between the surveyed objects based on specific properties (e.g., type of business and target group, in the case of retail mapping), which are defined by the researchers in accordance with the research topic. However, other properties of the objects (e.g., shop exterior or design of the space in the immediate vicinity) cannot be represented and therefore cannot be evaluated.

2 Preparation of the mapping: Mapping sheet and code plan

The entities and objects to be included on the map depend on the research topic in question. The precise definition of these objects and their properties/categories must be completed before the actual mapping process and should encompass the thematic, spatial, and temporal dimensions of the study (Baur et al. 2014: 14). For example, in soil science, it may be necessary to distinguish between spaces based on their soil type, whereas in retail geography (such as in our example), the retail outlets located within a certain area may be the objects of the study.

To begin with, the *thematic scope* of the survey must be defined, which depends on the nature of the research topic. In other words, the objects of the study must be precisely defined by listing the properties that the objects must exhibit in order to be included on the map. In the case of a map of retail outlets, it must be clearly specified which objects can be classified as retail. Definitions from official statistics can provide a useful guide, although these typically need to be supplemented to ensure they are appropriate for the survey in question. Once the overall scope of the study has been defined, categories must be created. The strategy for doing this also depends on the nature of the research topic. General guidance on how to create a category scheme is provided by Behnke et al. (2010:

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1   It is also possible to map criteria that are not classified as objects, such as noise, odors, sensations, and air quality levels (using corresponding instruments). As our example involves the surveying of buildings and their use, we use the terms "objects" or "entities."

294). For example, in the context of a retail map, it may be useful to classify the objects (retail outlets) by sector (e.g., clothing, electronics, household items, furniture, shoes), to estimate the surface area (e.g., by pacing off the area or by using a laser rangefinder), and to categorize the objects according to the type of business (e.g., discounter, hypermarket, or specialist store)[2]. The scope of these categories must be defined as clearly as possible and documented in advance. Nevertheless, during the mapping process, ambiguity often makes it necessary to reconsider categories or to deliberately exclude certain cases. The aforementioned properties are defined by means of a code plan (Fig. 1, right), which contains a code for every possible manifestation of each property, together with a detailed description. These codes are then recorded by hand or digitally on the mapping sheet (Fig. 1, left), on a source map in the corresponding scale (e.g., OpenStreetMap), or in a predefined table. In the meantime, there are more and more possibilities to collect data directly via digital applications. This saves time and prevents errors in data transmission. However, one should first familiarize oneself with the special features of the tools used and test the input with different devices (filters and displays, etc.).
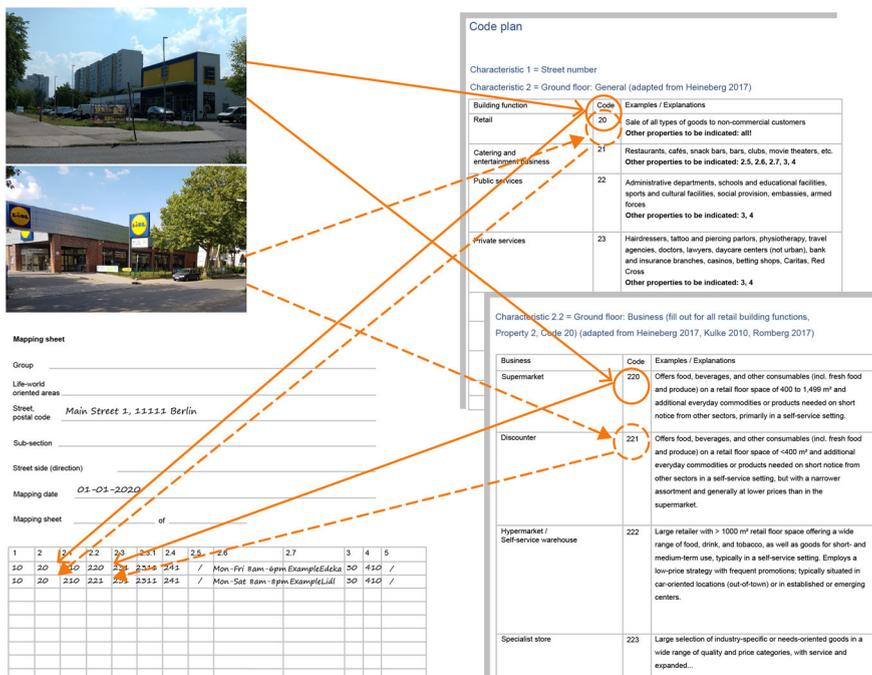
Fig. 1: Extract from mapping sheet and code plan | ©Julia Fülling and Linda Hering

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2   This type of data can often be found in surveys conducted by local authorities for the purpose of developing retail concepts. However, such data should always be checked thoroughly to ensure it is complete and qualitatively suitable/useful for the research topic in question (if necessary, the data must be supplemented or edited).

The first part of the mapping sheet contains all relevant information on the area to be surveyed in order to define the geographical and temporal scope of the survey, as well as to document the surveyor (Fig. 1, left center). The second part of the sheet contains a table with all of the properties to be surveyed. The column headers contain the abbreviations for the corresponding properties (e.g., Property 2.2 Ground floor: Business type, see Fig. 1, bottom left); each object (e.g., building) is then entered in a separate line together with the codes for the corresponding manifestations of the aforementioned properties.[3]

The next step is to define the *geographical scope* of the survey: in other words, the area or region to be included on the map. This can be done with reference to functional considerations in the context of the nature of the survey. For example, if the purpose of the survey is to map retailers in an urban center, the boundaries of the center must first be defined (e.g., 100 meters after the last retailer).[4] It is also customary to adopt established definitions from other surveys as this ensures that results are both valid and comparable. In the case of maps, functional considerations are often aligned with administrative boundaries (e.g., a district or local authority) as this typically allows for other relevant statistical data (e.g., population statistics) to be adopted from secondary sources.

Defining the *temporal scope* of the survey is also essential since objects change continuously over time. As with other types of surveys (e.g., censuses), the standard practice is to define a specific date. Objects that are added or removed after this date (e.g., the opening or closure of a store) are thus excluded from the survey. Specifying a date also makes it possible to remap the area at a later point in time and then analyze the changes to objects by means of comparative statistical analysis. In the case of dynamic observations, it is also possible to define a date range in order to record the changes that take place over a certain period. However, this results in a greater workload as changes to objects must be monitored and documented continuously during the specified period.

The thematic, spatial, and temporal scope of the survey must be defined before the mapping itself begins and should only be supplemented during ongoing data collection in exceptional cases. Before proceeding to the main survey, it can also be useful to conduct a preliminary test in order to tailor the data collection tools to the characteristics of the area and prevent errors during the actual data collection.

During the analysis phase, the definitions should be clearly stated to ensure statistical reliability and enable a comparison with other maps. In the case of subsequent surveys conducted at a later date (e.g., follow-up surveys), the same definitions must be used to ensure that changes can be documented and analyzed.

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3   The categories for the operating forms of the retail shops were formed and described according to a typical German retail landscape. Depending on the study region, these must be adapted accordingly.

4   In this case, it can be useful to search for official documents and statistics on retail centers (e.g., retail master plans or existing retail concepts).

3 Photo documentation

Photos can be used to generate findings based on visually recorded observations that cannot be obtained through the mapping of object properties—particularly when photos are systematically incorporated into the research process, as they can be used for interpretation purposes (Rose 2007: 239). Heavily standardized survey methods such as mapping inevitably exclude, or, homogenize the features of surveyed entities for illustration purposes—limitations that can be offset by incorporating visual survey methods in the form of photo documentation. Over the course of our lives, we learn to interpret spaces and things, such as buildings, and understand their symbolism—for instance, by learning to distinguish a church from a shop—and thus know how we should behave in different types of spaces or in front of or inside them (Löw 2016: 130 et seq.).

Based on the idea that images have their own logic (Bohnsack 2020: 45 et seq.), social action takes place *through* images; they do not merely represent but also constitute part of reality. This action-guided effect has become deeply ingrained in our everyday lives and manifests itself physically through our individual actions. Photographic images and their production—that is to say, photographic action—are embedded in a variety of social contexts, but also shape our cultural knowledge (Baur/Budenz 2017: 74 et seq.).

Meanwhile, the ever increasing diversity of visual technologies in almost all social contexts has sparked discussions about the opportunities and problems of this "visual culture": the term typically used by researchers to describe this phenomenon (Rose 2007: 4 et seq.). In this context, a photograph is never an objective representation of reality—on the contrary, it is affected by technical factors and the photographer and is therefore shaped subjectively both during the shooting process and subsequent editing (Baur/Budenz 2017: 93).

4 Preparations for photo documentation: Shooting script

According to the photo documentation method of Charles S. Suchar (see Rose 2007: 244 et seqq.), the researcher/team formulates a series of research questions, which are then used to generate photographs. How does gentrification manifest itself in a particular district—for example, through the juxtaposition of old and new—or what is the condition of public spaces, such as sidewalks or play areas? These questions are recorded in a *shooting script* (Fig. 2), similar to an interview guide. When creating a shooting script, it is important to define in advance *what* will be photographed, as well as *where* and *why* the photographs will be taken (i.e., provide a clear definition, as was the case for the mapping sheet). In this context, it can be useful to formulate sub-questions to the main question to enable researchers to focus on the relevant issues during their field trip and to facilitate a comparison between different images. Reference can be made to the thematic, spatial, and temporal definitions described above. As images do not speak for themselves, it is essential to follow the shooting script when shooting photographs. In addition, notes or *metadata* should be appended to each image. This should include factual information such as the date, time, and precise address, a short comment on how the image contributes to the questions listed in the shooting script, and a label (initials of the photog-

rapher) that serves as a code. This guide functions as a checklist for the researchers to photograph the surveyed entities or objects. Once the images have been taken, the required metadata are added to enable an in-depth analysis.

In addition, it is also important to consider the legal and ethical implications of methods that involve photography. These can vary from country to country or region to region and should be researched beforehand. The applicable copyright law and codes of practice of (sociological) research associations can be of importance here. The regulations for Germany are presented here as guidance: For example, Section 59 (1) of the German Copyright Act only permits photographs *of* public spaces (i.e., facades, open spaces, streets, etc.) that are taken *in* public spaces (i.e., freely accessible locations), not photographs that are taken from or that show the interior of private homes.

When an individual is photographed, consent must be obtained in every instance if the person is recognizable on the basis of their physical appearance. According to Section 23 of the German Copyright Law for Works of Art, people who form a *supplementary part* of a location or who are present at a gathering or similar activity can be photographed without obtaining prior consent. In principle, however, prior consent should still be obtained for ethical reasons.

More information on fundamental ethical considerations, which should form the basis of any research project but lie beyond the scope of this paper, can be found in the publications of the German Council for Social and Economic Data (RatSWD 2017) or Friedrichs (2019).

5 Case study: Space-sensitive mixed-methods design in the comparative survey of retail landscapes with a focus on food

The project *Knowledge and Goods: Consumers' and Producers' Spatial Knowledge* investigated the interactions between customers and suppliers in the food retail sector. One of the objectives of the study was to survey markers and references that are linked to spatial knowledge. As part of this process, a research project entitled *Market – Neighborhood – Milieu* was conducted in the summer semester of 2018 in order to compare the different types of food retail stores in four Berlin neighborhoods and to draw relations between these stores and the building structure and the socio-economic characteristics of the corresponding neighborhood.

Working in interdisciplinary teams, geography and sociology students surveyed food retail stores in four Berlin neighborhoods using a combination of a functional map of the buildings and photo documentation (Fülling/ Hering 2020a). The functional-structural maps aimed to survey the geographical distribution of food retail stores with a particular focus on identifying differences between the four neighborhoods. The purpose of the photo documentation was to supplement this statistical data with a qualitative-visual approach in view of the fact that food retail is heavily influenced by visual factors (such as the way in which products are displayed, the design of external facades, or the sidewalks in front of stores). In this context, photographs were used to demonstrate how food retailers are embedded into the architectural styles and urban planning of the local area.

5.1   Mapping the use of buildings: Abstraction for visualizing homogeneity and differences on a local level

The map was used to survey the locations and categorial features of food retailers from a quantitative perspective. The geographical boundaries were based on the so-called "*lebensweltlich orientierte Räume*" (*lifeworld-oriented areas*), a small-scale planning unit defined by the Berlin city administration using criteria such as "building structures and neighborhoods, major roads and thoroughfares, and natural barriers, as well as population numbers and statistical attributes" (SenSW n.d., own translation). The surveyed neighborhoods were selected according the principle of greatest possible heterogeneity with respect to building structures and socio-demographic composition. In addition, each district was required to have at least one store belonging to a leading food retail chain. Due the large amount of data involved, it was not possible to define a specific date for the survey. Instead, the survey was conducted over the course of June 2018. The thematic scope of the survey was defined based on the topic of the research project and therefore covered all usages (both commercial and private) of the buildings (from the basement to the 3rd floor) in the four surveyed neighborhoods (see map key, Fig. 1; for more information, see Fülling/Hering 2020b).

The data were collected in four interdisciplinary teams of students, each of which was responsible for one neighborhood. In the case of mappings that are conducted concurrently by different individuals, it is important to provide a thorough definition of the geographical, temporal, and thematic scope of the survey in consultation with the research team in order to ensure that comparable results are obtained.

Before the mapping stage, a preliminary test was conducted in a test neighborhood in order to debug and refine the map code and map sheet, and thus provide a precise category scheme. A map code must enable the researchers to "prepare identical, consistent and complete reports on one and the same subject matter" (Wessel 1996: 141, own translation). Due to the broad scope and complexity of the map code in this project, it was necessary to discuss and revise the categories. In general, it is only during field research that it becomes clear whether the objects in the surveyed area can be mapped using recommended categories, or whether the definitions in the map code allow for potentially different interpretations. For example, as many bakeries (usually classed as artisanal stores) offer in-store seating (a feature typical of catering businesses), a consensus had to be reached on whether a new category (hybrid store) should be created or on which category these bakeries should be placed in on the basis of jointly defined criteria. The objectives of the research project should always play a central role in determining the answers to these questions. Regular meetings of all participants were therefore held during the mapping stage in order to reach quick decisions on ambiguous cases and communicate these decisions directly to everyone involved. As the focus of the survey was on retail, a distinction was made in the category scheme (see map key, Fig. 1) between different retail sectors (e.g., food, clothing, and cars) and different types of stores (e.g., conventional, organic, and ethnic grocery stores). A distinction was also made between different types of catering businesses. While the focus of the project was on food retail, a decision was made to survey other building usages in order to perform a differentiated analysis of neighborhoods with reference to different building functions (retailers, service providers, and

catering businesses). In order to deduce the structural characteristics of the retail stores in each neighborhood and compare their accessibility by various transportation methods, the building type (e.g., low-rise, freestanding, or store in shopping center) and the availability of parking spaces were also added to the map (public transportation stops were added subsequently).

After collecting the data, the project team completed a comprehensive data cleansing process to refine the results. This involved verifying the plausibility of the data, supplementing missing values (where possible), ensuring that data were assigned to the correct categories, and clarifying problem cases (e.g., in the case of uncertainties or missing entries). This subsequent data processing aimed at standardizing the results is common practice for maps that are generated by different individuals. After this time-intensive step, the data were entered into a geographic information system (GIS) for further processing, analysis, and presentation. To begin with, maps of the surveyed neighborhoods were created (see map 1 and 2) to facilitate an initial comparison of all research areas in terms of the geographical distribution of (food) retail stores and the provision of different services. A geostatistical technique was then used to conduct further analysis: for instance, to investigate the distribution or concentration of food retailers. In our cases, during the study, we identified various different ways in which the urban functions of living and shopping were integrated/separated due to a combination of structural features and the contrasting development of the four neighborhoods in terms of public transportation options and motorized private transport (Scheffler et al. 2020). In addition, the mapping data (with and without spatial references) could be analyzed in conjunction with data on social structures in the surveyed neighborhoods in order to generate additional findings (Hettich et al. 2020).

The surveys conducted during the course of the case study also highlight the limitations of maps as a research method. The concept of maps as a product of scientific research is viewed with criticism, as are the classic mapping methods outlined above. This is because mapping as a research method and maps as a presentation format pose the risk of the content being received as objective reality without prior reflection (Baur et al 2009: 17 et seqq.; Mose/Strüver 2009: 315 et seq.). This also applies to the category scheme produced by researchers, which may not be able to fully capture the inherently subjective and quite varied experiences of users within the surveyed neighborhood. These limitations of the quantitative results produced by maps and statistical analysis can be reduced by employing a parallel or subsequent participative approach (e.g., collective and participative mapping, mental maps) (see Risler/Ares 2018) or by using ethnographic methods such as go-alongs. During the case study, the subjective perspective of relevant groups of the neighborhood (retailers and consumers) was subsequently incorporated by means of interviews and go-alongs. As visual abstractions of the surveyed neighborhood, maps produce evidence by highlighting the homogeneity of certain entities. They therefore present a temporal, spatial, and thematic excerpt of a supposedly objective reality and are influenced by the way in which they are designed by the researchers. This in turn depends on how the map will be interpreted by viewers and is limited by the nature of the medium itself, as numerical methods are less flexible and therefore the scope for interpretation is narrower (Heintz 2010: 177).

5.2 Photo documentation: Features of individual objects

The research team also used photographs in order to capture the individual characteristics of food retailers and document their integration with other building functions (e.g., services, living). For example, in addition to categorical and numerical information, such as the type of business or sector, the team was able to incorporate qualitative aspects into the comparison of the surveyed neighborhoods, such as aesthetic, design, and urban planning-related factors (e.g., facade design or availability of in-store seating). This enabled the research team to obtain a second, contrasting source of data to complement the information obtained during the mapping process.

In preparation for the photo shoot, the participants and teaching staff worked together to produce a *shooting script*, which was then used to take photographs of food retailers and their immediate surroundings. The aim was to capture the way in which food retailers were integrated into the surveyed neighborhood with reference to factors such as urban planning and architectural design. The resulting shooting script comprised a main question and additional sub-questions (see Fig. 2).

As with mapping, a test stage is also useful for photo shoots in order to check that the shooting script is fit for purpose. During the test phase, the team sifted the data and revised the first version of the shooting script—a process that involved prioritizing and deleting existing questions and supplementing the script with new questions. Based on the revised shooting script, the researchers proceeded to complete the photo documentation, supplementing their photo collection with relevant images in order to answer the corresponding questions. During this process, the researchers captured over 100 images of the facades of food retailers and their immediate surroundings. A selection of these images is shown in Figures 3 and 4.

The photo shoot was followed by a coding/analysis stage (Rose 2007: 244), during which a code was assigned to each image in order to help the researchers obtain answers to the research questions. The codes were aligned with the map's category scheme and indicated the type of business, the availability of bicycle stands, and the color scheme (bright or subdued).

Excerpt from the shooting script

Main question:

How are food retailers embedded into the surveyed neighborhoods from an urban planning and architectural perspective?

Sub-question:

·   Which types of food retailers are there in the corresponding neighborhood? Will new sub-categories be identified?
·   How are the stores designed (standalone, on the ground floor of a multi-story building, elaborate, etc.)? How big are they?
·   How are the stores integrated into the surroundings?
·   Does the store have a clear target market (e.g., from its name, product range, or advertising displays)?
·   Does the store utilize the spaces in front of the entrance (e.g., as an additional display area)?
·   To what extent do food retailers utilize opportunities for outdoor advertising?

Fig. 2: Excerpt from the shooting script; ©Julia Fülling and Linda Hering

This enabled the researchers to make comparisons, such as similarities and differences in color schemes, the availability of in-store seating, and the use of sidewalks to display products. The researchers also compared the use of advertising, both by the same types of business within a single neighborhood and across different neighborhoods. In our project, for example, the widespread use of graffiti by different types of businesses was identified as a common feature in one of the surveyed neighborhoods. This is an example of how new insights can emerge from photographic images, which can then be incorporated into the shooting script during the review stage. During the follow-up phase of the photo documentation, evaluation meetings were held with internal and external participants in which the images served as visual stimuli—similar to the method of photo elicitation (see also Dobrusskin et al. in this handbook), which involves selecting images based on their content and then presenting them to interviewees to function as stimuli for the topic under discussion. During these external group discussions, the participants' ability to match the location of the stores to their respective neighborhood was easier for some images than others, and depended on the participants' prior knowledge of these neighborhoods. In addition, the participants were able to make very spontaneous subjective assumptions about food retailers based solely on their impression of the external facade, such as the type of fruit and vegetables on sale, the origin of the goods, prices, and quality. The aforementioned comparisons covered a wide range of different experiences and expectations of the surveyed food retailers among a culturally, geographically, and generationally diverse group of participants. People's tendency to *form conclusions about retail spaces* based on their subjective experiences—which then influence their decisions for or against a particular store—was clearly revealed during the discussion.

In order to present the results, several series of images were created, each of which focused on specific research questions (Baur/Budenz 2017: 88 et seqq.). In addition, each series was accompanied by corresponding explanations, both to assist researchers with limited experience of handling visual data and because the interpretation of photos is typically a demanding task. Providing an explanation helps to prevent misinterpretations and ensure that viewers do not completely ignore one or more photos (Rose 2007: 250).

Photographic images should reflect as much as possible the themes the researcher deems relevant for the research question: in other words, they should serve as an illustration of interpretations or as evidence in itself (Baur/Budenz 2017: 73), for example, by presenting things that words cannot (Rose 2007: 247 et seq.). However, there should still be room for interpretation as photographic images only ever reach a state of "quasi naturalness" (Baur/Budenz 2017: 75, own translation), both in amateur and professional contexts. This is due to the technical properties of the medium, as well as subjective decisions (e.g., which spaces are included in the image) (ibid. 80 et seq.).

5.3 Relationship between spaces and objects: Synthesis of mapping and photo documentation

The following section summarizes the characteristics of the space-sensitive mixed-methods approach presented in this paper. In the context of the case study, the maps could be used to draw a range of conclusions, such as the number, distribution, and accessibility of food retailers in the predefined neighborhoods. The structure and layout of the entities/objects in the selected geographical area was presented on one or more maps. In the case of the two neighborhoods that are presented below for comparison (see map 1 and 2), there appear to be many similarities in terms of the concentration and distribution of food retailers. Based on the maps, it is possible to identify separate local retail communities together with their location and accessibility (such as via traffic hubs) and to evaluate each neighborhood with respect to the availability of different types of retail stores. Creating maps enables researchers to convert individual objects into a spatial representation in order to identify similarities and differences, which can be used to inform subsequent classifications of these spaces. For example, maps can be used to assess the provision of services for the local population: for example, by defining provision-related indicators or by conducting accessibility analyses (see Wieland 2015). These conclusions can then be used for other purposes, such as by local authorities for planning purposes.

Based on the photo documentation of the buildings, the surveyed neighborhoods have many similarities from a functional and structural perspective; however, in terms of the socio-spatial character of food retailers, the neighborhoods are very diverse. The reverse would also be conceivable. The photographic images can be used to draw conclusions about how retailers are incorporated into urban planning concepts, as well as their aesthetic character and the atmospheres they create. These conclusions can then inform interpretations on how symbolisms and design rules (e.g., advertisements, logos, decorative elements, and design features of the building) that are typical for a specific neighborhood (typefaces used by stores or graffiti on walls) or type of business
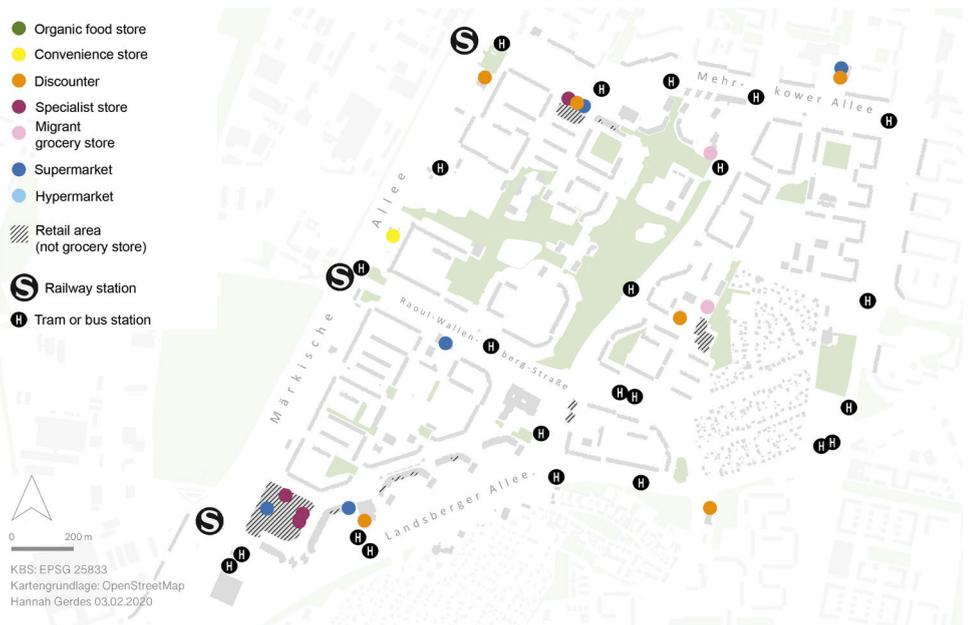
(widespread use of advertisements by discounters) are used. This enables the researchers to provide a symbolic-distinctive perspective that contrasts with the functional-structural perspective (Meier et al. 2020; Jascheck/Ulrich 2020). Our case study demonstrates how images—thanks to their descriptive and qualitative nature—can supplement quantitative findings from maps by visualizing aspects of surveyed objects that cannot be captured by the category scheme of a map. While the strength of maps clearly lies in their ability to generate a comprehensive overview of the surveyed neighborhoods and provide number-based information in a spatial context, images help to visualize, verify, and refine the interpretation of data from the map, as well as provide important data for analyzing the surveyed neighborhoods by focusing on individual objects.

The greatest advantage of this proposed synthesis of methods is its ability to create a data basis that incorporates different ways of representing the surveyed spaces. This makes it possible to combine functional- structural interpretations with symbolic-distinctive perspectives. Content that we presented *side by side* in our findings (i.e., the maps and photos were presented separately) can now be integrated using new digital software tools. For example, geotagging can be used to directly insert photos and accompanying text into digital maps.

Fig. 3: Excerpt of photo documentation from high-rise housing estate | ©Own images, 2018

Map 1: Distribution of food retailers in high-rise housing estate. | ©Own survey, 2018

Fig. 4: Excerpt of photo documentation from detached housing estate. | © Own images, 2018

Study area - detached housing estate

Map 2: Distribution of food retailers in detached housing estate. | ©Own survey, 2018

6 Maps and photography as complementary representations of a space

Maps and photographic images are two visual media with different communicative properties: they are not mutually convertible, nor can they be rendered as text. We have shown how maps and photographs can complement each other and, through their specific effects, generate unique representations of the surveyed entities/neighborhoods, thus winning acceptance by presenting specific evidence. Maps are primarily useful in order to survey, compare, and visualize spatial links and structures of objects within a confined geographical area. Photo documentation, on the other hand, focuses more on the specific features of individual objects. In our example, it illustrates the aesthetic aspects of local retailers, demonstrates how retailers are integrated into the neighborhood, and also allows conclusions to be drawn about the symbolic functions of consumption and distinction. It therefore substantiates the qualitative aspects of the differences between the surveyed neighborhoods that cannot be determined from the map.

By combining maps, which serve as a functional-structural method of representing the neighborhood, with photographic images, which provide a symbolic-distinctive depiction of individual food retailers, questions and comparisons concerning the structure and significance of retail landscapes can be discussed more comprehensively than would be the case if only one of the aforementioned methods were used.

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