Describing Space: Getting Started with and Making Sense of Grounded Visualization Data

The continued growth and acceptance of interpretive methodology to explore IR topics has led to creative and innovative use of methodological tools within the subfield. Many researchers are familiar with methods like ethnography, participant-observation research, interviewing, grounded theory, GIS, and other qualitative or interpretive tools. However, one tool that has yet to make a substantial appearance within IR is grounded visualization. Grounded visualization (also known as spatial ethnography to some scholars) combines elements of mapping with grounded theory, ethnography, and other interpretive data to highlight social and political phenomenon within space. In this memo, I will focus heavily on the process of "doing" grounded visualization and reflecting on the logistics and decision-making processes that accompany this method. In doing so, I will cover three major topics: process and practices in grounded visualization, evaluation criteria, and logistical/ethical considerations for this method.

Processes and Practices in Grounded Visualization

Step 1: Get (un)settled: One of the first steps in the design and data collection process for grounded visualization is situating yourself in the environment you are studying. If you are studying a new environment, this might be the process of *settling into* your environment, including noticing patterns, researching sites or things that are unfamiliar to you, and making sense of the space holistically. In the case of studying an environment that you are more familiar or intimate with, this may look more like a process of *unsettling*, such as questioning why and how things in the space came to be and making the space strange to you. These rituals of (un)settling allows you to establish reference points prior to the actual collection of your data.

Example: Saigon, March- September 2022

My intent in using grounded visualization as a method to study norm life cycles in global climate action planning is to see how mitigation and adaptation norms are enacted physically. For me, the process of getting settled included asking myself: *what are my reference points?* To answer this question for myself, I turned to three strategies. First, I thought about what types of adaptation and mitigation policies I might be looking at in the first place. For example, I knew green space is a popular adaptation and mitigation initiative. I had a reference point for what this looked like in Salt Lake City and Ottawa, as well as some images I had captured of green space coverage in Saigon back in 2018, but I had not spent much time thinking about what green space is (how do I know it when I see it?) and how the context of that green space might look different across geographic spaces. Second, once I had an idea of *what I imagined the idea/concept/data to look like,* I spent time looking at digital photos of these concepts and constructing a visual reference board. In a way, you can think about this as constructing a methodological mood board. These mood boards allow you to *gather examples* of what it may look like in your research context. I've included a version of what this could look like in Figure 1 below. I also added some photos I had taken from Saigon during my initial visit in 2018 and added some pictures throughout my 2022 fieldwork as I found new types of examples of greenspace

Figure 1: An example of a "methodological mood board" for green space in Vietanm

Step 2: Gather images:

Once you have considered what it is you are looking for, your reference points, and thought through some contextual examples, you can begin to gather your images. As you gather these images, it can be useful to think about what to capture through one of three frames: what about this *feels the same* as my mood board? What about this *feels different* from my mood board? What *is* this? For the sameness frame, you can consider what features match your reference points or mood board. You can also consider how you would categorize or describe the categories. When using the lens of difference, you can consider what elements are different than your reference point or mood board and how you would categorize or describe the differences. Finally, you may come across things that prompt you to ask, "what *is* this?" Especially as you are gaining your sea legs on a new project, things cause you to pause like this might be worthwhile rabbit holes to explore.

Example: Saigon, March- September 2022

Throughout my data collection of green space in Saigon, I used all three of these frames continuously throughout my data collection process. First, in Figure 2, I show some examples of images I captured that reflected similarities pulled into my mood board. In the photo on the left, I found exercise equipment embedded next to or within green space recreation areas in Saigon. As I looked for and documented these as I found them, it highlighted how people used greenspaces in a multitude of ways throughout the city. The greenspaces, in addition to being aesthetic, were also visual indicators of places where people could concentrate and be active. Due to the street

design and heavy traffic congestion, walking and running on the streets of Saigon was a challenge, to say the least. One of the few places where people can safely be active without fear of being run over by a car or (more likely) motorbike are in these green spaces. In this way, green space also acts as a method of demarcating space within the city and the exercise equipment reinforces this demarcation.

On the right, I included a picture of the greenspace that would be considered typical lining the streets in Saigon. This generally included trees of various size (these would probably be considered mid-sized) and usually some ground greenery. The ground greenery was usually some blend of grass, shrubs, mini-hedges, or other types of luscious plants. While the trees provide some minimal reprieve from the sun, the ground greenery both reduces urban heat island effects by absorbing heat and provides some minimal protection against flooding. On the right, you can also see hedge lining, which was less common. As I explored this space more and revisited it, I learned that beyond the hedge, there was a government building and that the hedges were installed as a way of providing additional privacy for the building and to beautify the area.

Figure 2: Similarities

In figure 3, I include two examples of greenspaces I encountered that felt different from my original reference points. On the left, I included one of the my favorite examples of "green space" I stumbled on in District 5 of Saigon. The image shows a pole wrapped in plastic greenery. There were several blocks of these poles throughout the district. Only 14% of District 5 has greenspace (Dang et al., 2018). As such, this "greenery" stands out visually within the district. It is also probably fair to assume that the plastic greenery has minimal functional value with regard to climate adaptation or mitigation and thus serves a purely aesthetic purpose.

A second different I've included is green space I found in a neighborhood community. Immediately outside of the gates to this neighborhood was just concrete and buildings, but as you wind through the neighborhood alleys, you run across greenery peeking out from pots, balconies, windows, with some trees scattered at various intersections. As you walk through the neighborhood, the greenspace differs in many ways compared to the images on the mood board.

First, the lack of unity in the types of greenery stand out. The pots and containers are all different sizes, shapes, colors, and are scattered in placements. Additionally, the types of plants differ in each spot, which speaks to the organic emergence of this green space compared to a carefully planned green space layout that a city forestry department may plan and maintain.

Figure 3: Differences

To conclude, I include two "unknowns" that I ran across in the field in figure 4. The first image on the left depicts a micro-park. There was no signage when I ran across it, but it had many classic park features. It looked simultaneously similar and different from my reference images but still led me to question what it was as I examined the space. Later, I learned that the adjacent building was a private apartment complex and the complex had built the small park as a resident amenity. This led me to begin asking questions about and examining privately installed greenspace across the city. In addition, I began paying attention to the similarities and differences between these private and publicly installed greenspaces with regard to their structure and use patterns.

The photo of the tree to the right focuses on the number "144." These numbers were something I spotted early in my image collection and when I first saw it, I had no idea what the numbers meant. I came to learn that these numbers indicate two things. First, it indicates that it is a tree that was installed by the city and that the city is responsible for maintaining. The tree in the picture was located in a city park. In contrast, the trees in the picture on the left (the private micro-park) do not have these numbers. Second, the numbers indicate the number of the tree in the city's inventory for that site. This speaks to records that exist within the forestry division and city records more broadly.

Figure 4: The Unknown

Step 3: Contextualize the images in place

After beginning the process of collecting images, you will engage in the third step of this process which his contextualizing the images within the place you are studying. This may include historical contextualization, geographical contextualization, relationality to the space, or other details that can help in meaning-making of the images to broader concepts. Annette Miae Kim's book "Sidewalk City: Remapping Public Space in Ho Chi Minh City" invokes grounded visualization to understand differences between the policies and practices of public space usage in the city (Kim, 2015). For example, she offers the map in Figure 5 as a visualization of the data in the life of a vendor selling their goods in Saigon. The pictures combine with the qualitative data collected to show the vendor physically interacts with the space of the city, as well as how the vendor navigates the grey space between policy and practice in Saigon when it comes to sidewalk vending.

Figure 5: A Day in the Life of a Saigon Sidewalk Vendor

(Kim, 2015)

Example: Saigon, March- September 2022

The locations of greenspace in Saigon tells an important story about development, planning, and climate policy in proximity to businesses and government buildings. While Saigon does install and maintain a large amount of greenery, there is also a rise in public-private partnership to install and maintain greenspaces. This difference in public versus private funding and management of greenspace in Saigon is one factor driving the differences in greenspace availability across the city. There has been immense pressure for acceleration of development in Saigon over the past decade. The COVID-19 pandemic has also accelerated the demand for development. Saigon, and Vietnam more broadly, was shut down for the larger part of two years as it engaged in an aggressive response to minimize infections and deaths from the pandemic. A spillover impact of this was a massive slowdown in construction and development across the city. Since the reopening of the country in March 2022, there has been immense pressure for developers to catch up on projects and the city has been soliciting many large-scale development projects to try to compensate for this development freeze.

Throughout my collaborations and interviews, a recurring theme between development and greenspaces in Saigon was that the pressure for development has led to loosening zoning protections of these spaces over the years. For example, the city has approved waves of new construction projects that will or have led to the removal of city-installed greenspaces. In exchange, the company with the approved zoning is supposed to install equivalent or greater numbers of green space on the property to replace what is removed during construction. Unfortunately, the follow through with this has many limitations. Foremost, enforcement of these provisions is unreliable. There is little follow through from the city government to enforce this zoning—partially due to resource constraints and partially due to low prioritization. There is also the additional issue that when companies do follow through, they are often installing monoculture or other types of greenery that has limited benefits for local ecology.

In addition to the limitations of private greenspaces in terms of follow through and types of greenery, the location of these represents an issue. District 7 is an excellent example. Although

District 7 has a great concentration of luscious greenspaces near the international schools, Fulbright University, and expat neighborhoods, that is not the case for the whole district. The images in Figure 6 are all privately managed and installed by public-private partnership. Figure 6 shows some examples of the concentration of these canopies, bringing cooling relief and establishing protective barriers against flooding levels. Older areas of the district where locals (non-expats) work, live, and travel through have been neglected in greenspace installation and experience dramatic flooding effects. Figure 7 shows flooding in these areas on September 14, 2022, where 20cm of water flooded into the roads and into houses (*High Tide Floods Streets, Houses in Ho Chi Minh City*, 2022).

Figure 6: Greenspace near international schools, Fulbright University, and expat neighborhoods in District 7

Figure 7: Flooding in District 7, September 14, 2022

Source: *Le Phan / Tuoi Tre*

In Figure 8, the zoning map (left picture) and satellite image (right picture) show the zoned and actual greenspaces of the neighborhood, respectively. As one of the newest neighborhoods in Saigon, the zoning maps for the city have left several areas completely unregulated to zoning restrictions (depicted by the pale yellow in the left photo). Interestingly, in comparing these maps, the southern part of the district has been developed to include a lot of green space (dark green in the right photo). The photos in Figure 6 are all from this newly developed part of the

district. While there are some small pockets of urban greenery that can be found in the older parts of the district (all shades of green on both maps), the bulk of the greenspace is in the newer areas of the district and a result of private-public partnerships, not direct city policy.

Figure 8: Zone Map and Satellite Images of District 7 in Saigon

Source: https://thongtinquyhoach.hochiminhcity.gov.vn/
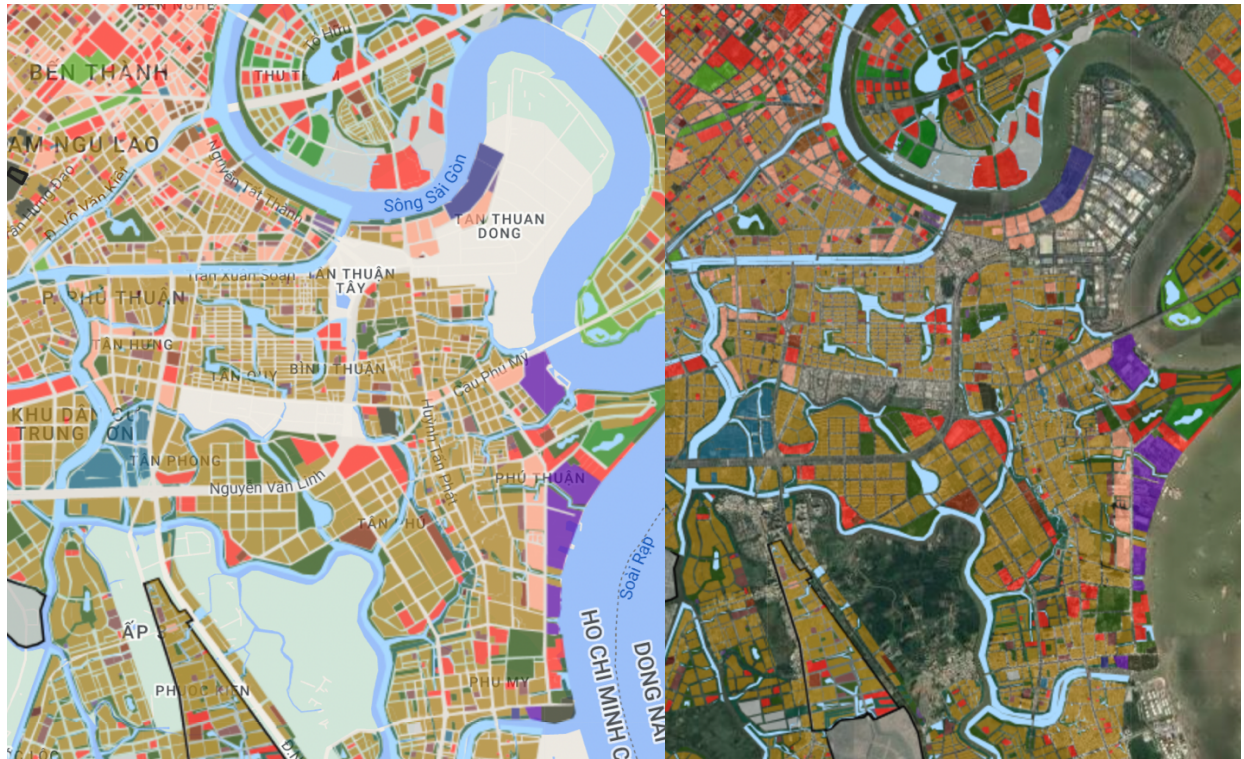
Evaluating Grounded Visualization and Image-Based Data

Having read about the methodological process for conducting grounded visualization and seeing examples these stages applied to ongoing fieldwork on green space design in Saigon, I will now turn my attention to the question of the criteria we should use for evaluation of grounded visualization data or image-based data more broadly.

First, we must consider the traditions in which this method is based. As an interpretive methodology, practitioners of this method are not concerns with generalizability or replication in the positivist sense. To apply that criteria to this method would be like comparing apples and banana bread. Instead, harkening back to the standards of interpretivist methods can give us meaningful direction for establishing evaluation criteria in this method. This includes reflexivity (which contributes to an "attitude of doubt"), "thorough and meticulous" scholarly argumentation, and a systematic process (Yanow & Schwartz-Shea, 2009).

Reflexivity in this method requires the researcher(s) to consider the spatial politics of their body and how this contributes to how they see the space, how they move through the space, and how

the environment responds to them as they engage in the grounded visualization. This means that reflexive statements should reflect and center on questions of power, not necessarily identity (though identity and power may have direct relation in some cases). An exemplary engagement with reflexivity would engage with questions of doubt and create agency for readers to wrestle with the possibility of multiple worlds as they explore the data presented by the researcher.

Grounded visualization and image-based methods should also be presented with "thorough and meticulous" scholarly argumentation (Yanow & Schwartz-Shea, 2009), meaning that the narratives and stories presented by researchers using this method should not be presenting a single-sided story. Instead, quality research should explore possible logical alternatives or meanings behind the data they show. In the case of visual data, this could look like multiple photos taken at different times and days or a more comprehensive set of image-based data that places the images within the larger site of study.

Finally, grounded visualization and image-based methods are systematic. While the three stages may be (and likely are) iterative—meaning that the researcher engages in these cycles or stages of these cycles multiple times— the research process is still systematic. Researchers engaging in this method should be able to clearly discuss what each of these stages in the process looked like in their case and how that process contributed to their collection, understanding, and interpretation of the data.

<u>Ethical and Logistical Challenges</u>

The cliché that "a picture is worth a thousand words" comes to mind when considering the ethical and logistical challenges that come with engaging in grounded visualization and image-based research. Images can contain much more meaning and information than written notes and images may also have wider legibility, which presents exciting opportunities, but also introduces unique challenges. While there are likely endless considerations as to these challenges, I would like to highlight two in particular: meta data and consent.

Pictures, especially those captured on modern digital cameras or on cellphones, embed multiple types of meta data, including geographic location, date, time, and depending on where the images are uploaded to, can also be connected to various facial recognition software. Obviously, in more authoritarian contexts or higher-risks contexts, meta data creates new layers of privacy concerns for participants or even just bystanders. Researchers considering this method (and especially those planning to take their own pictures) need to understand what meta data is collected, have a clear plan for storage of those images, and understand who maintains rights over those images over time depending on how they were taken and where they are stored.

Consent also becomes a much thornier issue with this method. If you are engaging in grounded visualization that does not necessitate the inclusion of people in the images (such as mine collected in Saigon), the consent processes should mirror normal ethnographic consent processes for your institution. However, at the point where any people are included in images (intentionally or unintentionally), researchers need to consider how they will handle those images. In the case of some of my photos, there are people in the images, but I've ensured that they are not identifiable to protect their privacy. Depending on the context of your study, the location you are

immersed in/with, and related cultural norms, it may also be appropriate to consider modifications to the image to remove or conceal people who are accidentally present. If people are to be included intentionally in the images captured, researchers must consider cultural, legal, and social factors surrounding consent in being photographed. Your institution or country may also require that any people featured in images sign photo consent releases. You may also want to consider how you can engage people included in your photos as co-researchers and share meaning making. Additionally, consider how you can provide copies of these images to those who are photographed and what the benefit (and risk) of the photograph may be to the person.

References

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