

Circular digital relations

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Circular Digital Relations

Federico De Musso

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Introduction

- This paper will address how *digital affordances*¹ (Grasseni and Walter 2014) of the interactive documentary are an epistemological tool that shapes and fosters comparative reflections in collaborative ethnographic projects. To do so, I will analyse the process of planning and coding an *i-doc* (interactive documentary) as part of my work in the *Food Citizens*? ERC project. I will consider images and lines of codes that exemplify how the planning and the making of the digital platform mediates the processes of comparison and collaboration within the framework of the project's teamwork.
- The platform contains the media and reflections that the project team produced during their fieldwork and through their teamwork. As part of the preparation of the platform, three Ph.D. candidates ('researchers' henceforth), the project's principal investigator Cristina Grasseni and I collaborated in cyclical ways. As explained in the introduction of this Special Issue, we exchanged comments and media shared through the research group in different moments of reflection. This circulation of images and discussions made it possible to think of the three different sites together, to represent this collaboration, and to facilitate further collaborative thinking. The digital platform works both as an epistemological tool to conceive and visualise comparison and as a venue to disseminate the media. On the one hand, the i-doc helps navigate the juxtaposed media; while on the other, it makes visible and guides field comparison through the media. Thus, the platform mediates and facilitates reflection about comparison as well as "on the practice of mediation" (Mazzarella 2004).
- In this article, I focus in particular on how coding the digital environment (Nash 2014) helps explore how ethnographic comparison could take place through it. Specifically,

in the i-doc, I developed a *comparison dial* that allows the user to highlight possible juxtapositions and to follow and interact with the circularity of the researcher's epistemic exchanges that made the i-doc possible. The process that guided the coding comprised collaborative sessions attended by the research team members in which we made an inventory of possible digital interactions between media. This was followed by converting this inventory into fitting lines of code. By analysing these different moments, I show how coding becomes part of the anthropological epistemological toolkit to be developed and deployed to think about and visualise the research.

- In order to demonstrate how the comparison works, I will first introduce the rationale behind the type of navigation interface of the i-doc. I show how, at the crossroads between a fully guided tour and an unbridled exploration, the *Food Citizens*? i-doc considers the literature on users' agency in interactive media and reflect on how the i-doc mediates the different epistemic paths the researchers engaged with. Subsequently, I take into account how to consider mediation and how the making and the usage of the i-doc facilitates and streamlines the work of comparing for the researchers. The i-doc confronted the researchers with multiple reflection phases, which helped materialise their thoughts as part of the same process through which the i-doc took shape.
- Moreover, I explain how the work of comparison followed a practice of circular, recursive, and ethnographically informed *listening*, which shaped the work of the individual researchers and that of the group. By considering programming as a type of multimodal, ethnographic writing, I show how specific aspects of coding informs ethnographic analysis. Finally, I conclude by looking at how the mediations contained in the i-doc are part of broader 'aesthetic formations' (Meyer 2009). I describe how the cycles of feedback helped the researchers recognise how collective food procurement is embedded in urban renovation and gentrification dynamics. These dynamics also affected the way the i-doc looks, both in terms of the media from the field and the final design of the navigation map itself.
- The Food Citizens? project revolved around visual research on how food procurement took place in different places and through different practices. As Cristina Grasseni has shown, different practices of dwelling create different ways to perceive and look at the world (Grasseni 2009). These 'skilled visions' are embedded in locally specific forms of ecological relations (Grasseni 2007). In turn, the researcher needs to investigate these (visual) relations by developing her own skilled vision, and to learn to look at practices and places through the eyes of the research collaborators human or otherwise (Bleumink, Jong, and Plájás 2021).
- Different practices of conducting fieldwork, however, not only differently affect vision but also redefine what research and research practices can be. Following Collins et al.² (Collins, Durington, and Gill 2017), I refer to the shifts in the understanding of how relationality in the field shapes the role of the researcher, her work in the field, and her contribution to scholarship. Diverse ways of collaborating and engaging with research collaborators recognising their contribution to research and inviting them to play a more proactive role in the definition of research practice problematise the relation between anthropologists and fieldwork. Often alone evermore in a faraway country, anthropologists find novel ways to reframe their role in the field and their connections with other places.

- As Paolo Favero points out, this new experiment in rethinking collaborative and collective ethnography can benefit from the affordances of i-docs specifically the multiple perspectives they can host (Favero 2017). Following Grasseni, i-docs help develop collective skilled visions³ which, on the one hand, inform and contribute to collaborative research practice, and on the other, provide a shared epistemic framework within which different visions and perspectives develop. Many commentators on the growing interactive documentary genre have pointed out how interactive documentaries are more than just interactive ways to document reality (Rose 2018; Aston 2017). Increasingly, researchers have recognised the epistemological contribution of interactive documentaries in rethinking the process of scientific research (Favero 2013; Näser and Weidle 2017) and prefigurative discourses about reality (Scott-Stevenson 2020).
- The type of collaboration that the i-doc enables is not limited to researchers. Users acquire an active role in cocreating the experience of the i-doc and, in anthropological terms, they also contribute to creating ethnographic meaning. By interacting with the elements of the interactive documentary, creating different ways to juxtapose videos and still pictures, the users can participate in building relations and meanings that usually happen through cuts in montage (Marcus 1995; Suhr and Willerslev 2012). As I explain below, the user's ability to actively contribute to such montages creates a curational tension for the ethnographer that needs to avoid easy and uncritical appropriation by the users.
- In this sense, to make an i-doc, one needs to consider both the collaborative dynamics between the researchers and the way the audience can access and interact with the media. Understanding the type of mediation the i-doc provides becomes necessary to comprehend how the properties of the i-doc can offer both a setting for this collaboration and an externalised medium that can facilitate reflexive discourses (see Mazzarella 2004, 8).
- On the one hand, the i-doc helps figure out how collaboration works through reflection. Connections between media in the platform need to be visible. Thus, they need to be "objectified" (Manovich 2002) i.e. the heuristic process of users' interaction with media requires isolating and automating commands that the i-doc can execute. Making these connections work allows us to think through what the underlying logic of collaborations is. For example, as I show later, to implement a circular dial to highlight different levels of analysis was the result of reflection about the recursive ways in which ethnographers shared fieldwork information and analytical insight. On the other hand, the i-doc provides a space to host media that trigger reflections about different collective ways of being in the world. Following Birgit Meyer, media partake in aesthetic formations that characterise how a group of people specifically feel a sense of belonging to a collective, thanks to the interaction with the material culture surrounding them (Meyer 2009).
- As a medium, then, an i-doc helps reflect on the work of the team and the analytical categories that brought it into being, as much as being an archival container to investigate all types of mediations that the ethnographers encountered in the field. With this in mind, in the following sections, I explain how I tried to create an i-doc that could facilitate collaborative enquires about collectives and invite the *Food Citizens?* researchers to reflect together about their research processes.

Styles of Navigation

The Food Citizens? research team investigated alternative food procurement practices in the cities of Gdańsk, Rotterdam and Turin. As part of the team, I provided a tool to ground and visualise comparison. To represent comparison and facilitate further collaborative thinking, the digital platform works both as an epistemological tool to think about comparison and as a dissemination venue to access the media. The i-doc works within the framework of the Food Citizens? project, as Cristina Grasseni points out in the introduction to this issue (Grasseni 2022 this issue), wherein the research members used a comparative grid that follows three different food procurement scenarios of practices along four analytical categories: solidarity, skill, scale, and diversity. The i-doc works through this grid to help the researchers visualise and think through the connections between places and categories. On the one hand, the platform helps navigate the juxtaposed media; while and on the other, it makes visible and guides field comparison through the media.

Figure 1. Food Citizens? i-doc navigation page



The interactable map of the Food Citizens? i-doc shows the three cities of Turin, Rotterdam and Gdańsk

Graphic by Federico De Musso

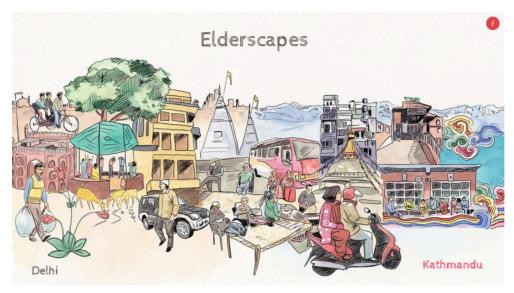
- 14 This is an image of the i-doc canvas. I used a landscape map to represent the three cities where the research project took place: Turin, Rotterdam and Gdańsk.
- The map hosts images of the buildings that look like those where the researchers undertook their research. I placed these buildings amidst high-rises that characterise the landscape of the three European cities. The fieldwork-related facilities are interactable and the cursor changes into a pointer while hovering over them. They function as links to open a menu. The menu shows media that correspond to those places. Users can click on the media and watch videos, photos and listen to sound recordings and interviews from the field.
- 16 A circle in the top left of the screen works as a comparison dial. If the user turns it, it shows lines that link places in the map following the analytical comparison the research team members collectively undertook.

Figure 2. Food Citizens? i-doc early iteration of the navigation

Early visualisation of the Food Citizens? i-doc. From the circle in the top left of the screen, lines travel through a map of grey buildings. Images of videos and photos pop up on the screen along the line. Graphic by Federico De Musso

- In one of the earliest iterations of the graphic layout of the platform, images stand at different stops along a dotted line. In the background, a fictional river divides the map into three regions, each with its own buildings: Turin on the top left, Rotterdam on the bottom left, and Gdańsk on the right side of the map. Each highlighted image represents a clickable element that links related media the user can access. While the user clicks on the interactable image on the map, she decides when and in which order to go through the different parts of the documentary. The user can choose to navigate the map in two ways: she can independently click on whichever building she finds on the map, or she can follow the lines that create a relation between the pictures and digital places that she can explore.
- Experiments with similar pathfinding strategies can be found in *Elderscapes* (Mayer, Mandoki, and Gross 2016) and *Refugee Republic* (Visser, Rothuizen, and van Tol 2014). In both cases, the user interacts with drawings and maps. Images and places are links that invite the user to explore different areas in no specific order. In *Elderscapes*, the landing page offers a landscape of sketched areas and activities representing the merged human landscape of Delhi and Kathmandu. The user can click on the different drawings to visualise videos and explanations about elderly care issues in India and Nepal.

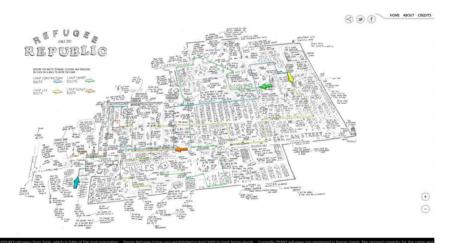
Figure 3. Navigation page of Elderscapes



The landscape of Delhi and Kathmandu merge in the drawings of the scenes the users can click on. https://kjc-sv038.kjc.uni-heidelberg.de/elderscapes/#Main_Menu (accessed July 4, 2022)

- Users can hover the mouse over the sketches; and when doing so, the sketch's colour saturation increases, and a small caption helps the users to decide whether or not to click. Information about what the user can do is then actioned by the movement of the mouse, offering information that can guide the user's navigation. Besides these mechanics, users are encouraged to click on different images without further help to select the content that the images or the caption offers. The work of comparison that informs the research project comes to the fore by bringing together in one virtual place the media from the two capitals. The website builds upon the possibility of a tacit comparison highlighting the comparative affordances of the medium.
- 20 Conversely, Refugee Republic offers a different take on the map.

Figure 4. Map of i-doc REFUGEE REPUBLIC

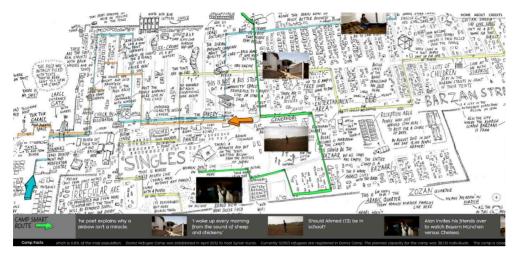


The coloured lines on the map signal the paths the user can follow to discover the stories of the documentary's characters.

https://refugeerepublic.submarinechannel.com/ (accessed July 4, 2022)

The map represents a graphic rendition of the geography of the refugee camp "Domiz" in northern Iraq. The documentary follows the history of four people. They walk along different paths through the camp and arrive at its entrance to receive their basic aid box. Their routes are identified on the map by lines and arrows of different colours that intersect descriptions of life in the camp.

Figure 5. Details of REFUGEE REPUBLIC'S navigation



The lines can be interacted with, and show previews of the stories the user can access. https://refugeerepublic.submarinechannel.com/ (accessed July 4, 2022)

- 22 Once again, when hovering the mouse over the refugees' trajectories, different images appear along the paths. They guide the user's choices, prefiguring the media the documentarists wanted to show. Users are thus guided through the stories with graphic links that connect the different media. If the user clicks on a path, a new page is loaded. The user can scroll horizontally through the page and "follow" the path of the people in the camp. Along the way, new images and videos pop up on the page, and users can decide whether to watch them or not.
- These two documentaries offer similar yet different styles of navigation across the collection of media. Less intrusive 'hand-taking', or more linear ways to follow stories, grant users different roles in coproducing what the documentary shows. They offer two different interacting rationales that inform how documentary makers approach i-docs. The tension between the need to channel the user's agency into defined paths or leaving it open for free exploration and recombination is omnipresent in i-docs.
- On the one hand, the first approach advocates for a more explicit authorial choice in guiding the users to focus on specific issues (Aston 2017). Authors curate links between the content so that the interaction reflects the dynamics the author wants to touch upon (Nash 2014; 2018). That way, they avoid links that make little ethnographic sense or end up misrepresenting reality. On the other hand, the second approach posits the ability of algorithms to create new semantic connections between the different elements of the i-doc⁴. The new links help to imagine, recreate, and discover many possible alternatives in which documentary content can be interacted with and displayed (Miles 2017). Implementing the i-doc navigation requires a theoretical and methodological reflection about the epistemological premises behind its design (Nash

2014). Accessibility becomes a focal point for envisioning the kind of knowledge production the i-doc enables.

Thus, the Food Citizens? i-doc needed to facilitate access to the ethnographic content – namely collective food procurement – while at the same time it also had to address the epistemological practices that underlined the research, namely the collective reflection about the ethnographic experiences in the three cities. This reflection, jointly with the collection of media from the field, followed the research project base guidelines, which enabled the researchers to freely interpret the categories and practices as long as they were able to reconduct them to a common narrative (Grasseni 2022, this issue). To render visible this ethnographic process, my solution was to facilitate access to different registers of dissemination and integrate the two attitudes I described above – free clicking and authorial supervision. Here, the user can switch from one to the other, depending on the aspect she wants to prioritise.





The landscape presents the three cities together in the same screen divided and yet connected by a fictitious river. The buildings of the cities are the interactables that link to the i-doc's content.

Graphic by Federico De Musso

- The user can freely click on each building that "contains" links to the multimedia material, thus allowing for broader autonomy in creating links and juxtaposing those media. This way, the i-doc offers an open approach to navigation.
- 27 However, by rotating the "dial", the circle in the top right corner, the user can also reveal the links between the field sites that the researchers have established in their ethnographic analysis. The lines that connect two buildings represent these links. The lines take on different colours depending on which analytical tool among the four categories explored by the project, namely solidarity, diversity, skill or scale the user is interested in exploring. For instance, in the following example, the user can select the "skill" level in the dial and show the place's connections relative to the "skill."

Figure 7. The dial

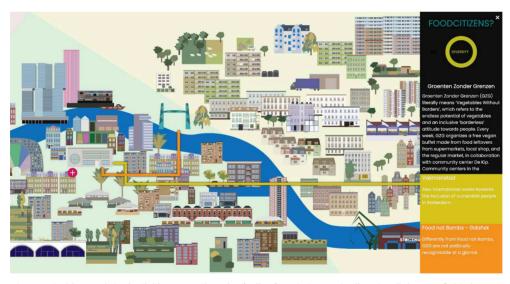


The Food Citizens? i-doc's dial is set to skill (purple) and shows the line that links the two field sites under that category.

Graphic by Federico De Musso

In the following image, by turning the circle to the "diversity" level, users can follow and compare field locations and practices through the lines made available when focusing on "diversity." Of these locations and practices, some had been pre-selected before the fieldwork, and others emerged through fieldwork and offer a wide set of references to enact comparison between field sites and between cities.

Figure 8. The dial changes



The Food Citizens? i-doc's dial is set to diversity (yellow) and shows the line that links two field sites under that category

Graphic by Federico De Musso

The possibility of navigating the website by following the lines offers an authorial way to guide the users in their discovery of the issue of collective food procurement – providing suggested routes to follow and additional data to examine. This mode of navigation also benefits from brief explanations that situate each link in the network of connections created by the researchers.

Digital Mediation and Comparison

- The lines represent the ways by which the researchers would explain the relations between the networks of meaning and people in the field. However, they are more than just representations: they also mediate their work. As a medium, they constitute both "a material framework, both enabling and constraining, for a given set of social practices" i.e. they are equipped with a set of affordances (Gibson 2014) ¬– and "a reflexive and reifying technology" that helps make social ties "imaginable and intelligible" (Mazzarella 2004, 346). The lines help reflect about relations between elements that have been brought into being (Miller et al. 2005, 8). As the lines render both thinkable and tangible connections, the i-doc readily enables researchers to compare the cases and to visualise links and interconnections between the places clearly.
- However, in i-docs, reflections do not only happen *ex post*. For instance, due to the effort to make them interactable, (Manovich 2002) reflection of how this interaction is going to look like happens through objectifying such interaction, binding it to a defined clickable or interactable object e.g. the i-doc's lines.
- Therefore, the interactable objects mediate and materialise a set of reflective moments that happen before, during, and after the creation of the i-doc. The i-doc lines stand for comparison at the same time they materialise it on the screen. They do so through invisible lines of code that underlie the interactive mechanism. The i-doc brings comparison to the fore by creating and rendering visible the ethnographic practice of evoking difference (see Tyler 1986; Strathern 1991). The *Food Citizens*? i-doc join both programming and research. On the one hand, it links reflections about the organisation of the ethnographic content in the platform with what comparisons it enables. The i-doc mediates the connection between the web design's back end the organisation of data and the front end data visualisation.
- As explained in the introduction to this special issue, the planning of the entire project around the operationalization of ethnographic comparison guided the collection of ethnographic material. Moreover, as I describe later, how to visualise comparison does not only impact the way comparison is designed i.e. lines, but it also influences how the ethnographic material is gathered, organised and accessed to make the comparison possible. In the same way, the actual code of the i-doc not only regulates the way the lines are drawn on the screen at each iteration, but also controls how they access the data that populate the platform to situate the ethnographic material in context.
- For instance, I now address the way the lines work. Consider that ethnographic information can be easily stored and organised in an Excel file that orders content in relation to the field site and the research categories:

Case Self Elsewhere S

Figure 9. The Excel grid where the content of the i-doc is stored

This is the grid of content for the comparison descriptors. They refer to Self when they are related to another place in the same city, and to Elsewhere when they connect places in the other two cities. Graphic by Federico De Musso

The i-doc creates the lines that correspond to those descriptors and those spreadsheet coordinates—the i-doc works as an engine that searches this database and fetches the correct description for each case. The user can read a brief description that informs the connection. Boxes of the same colour of the line host the researchers' rationale behind creating the link.

Figure 10. The description boxes



When the user turns the dial, a box on the sidebar takes on the colour of the line, and shows a description of how the field reshapes the analytical selected category (in this case, diversity). Graphic by Federico De Musso

There are two issues the i-doc solves by going through the Excel file in the user's stead.

On the one hand, reading the Excel file – or the correspondent database for the website – can be tedious. Finding correlations between elements requires time to go through

the entire document and cross-reference the entries. On the other hand, it presents the data entangled together without the possibility to "cut the network" (Strathern 1996) – clearly isolating social phenomena from the many relations they have with the rest of society – making the work of comparison blurrier. The Excel form, thus, creates a paradox: while every cell contains bounded and isolated information, it is also surrounded by other similar bits of information, making it less visible to the naked eye.

Accessing the Excel cell content in the i-doc, rather, offers the double advantage of fetching the content from the back end – through a rapid interaction with the interface of the documentary – while also conveying the media (and especially the line descriptions) the user wants to see without showing the rest of the content. This visualisation makes comparative relation tangible as it becomes effective.

However, when preparing such objectification, the i-doc also furthers the researchers' reflections about creating the comparison database. The researchers made comparisons while thinking about how to do them. They analysed one another's media in different moments to understand how food procurement looked, sounded, and felt differently among the three cities. This knowledge informed my work and that of the principal investigator when assessing whether comparison was indeed possible. These moments led to a consideration of how the contrast highlighted nuances in the comparative tools, such as the four analytical categories employed by the project: solidarity, diversity, skill and scale - or how they failed to do so. The juxtaposition helped me to focus on the analytical framework and reinterpret it in light of the ethnographic material. Hence, the discussions of the research group about what kind of cases were followed up, and if and how these choices answered the questions posed by the principal investigator in the project research protocol, also informed my thinking about what to showcase and how to organise it visually, and vice versa, and facilitated us to sharpen up the four analytical categories with specific reference to the field case studies.

What the i-doc mediates, then, is a way to think about specific diversity in the context of the three different cities; the different social relations each instance mobilises; and, significantly, the researchers' work in redefining the analytical categories. Similarly to the work of media in globalisation theory (Mazzarella 2004), the i-doc's mediation between three different places both highlights the disjuncture between them and forms of mediated connections (Appadurai 1996) and also offers a structural organisation of diversity (Hannerz, 237 in Mazzarella 2004). However, to consider the fields together without encasing them in a top-down comparative structure or without providing a sense of complete unrelatedness, the researchers had to reflect on how each of the cases interpreted the four categories differently. They had to see if, by linking them with other parts of the map, the other localised definitions could shed light on how they both interpreted those categories. By drawing the lines, the researchers' tools acquired more and more meaning - comparing how different places reconstituted the analytical concepts (see Strathern 1988; Candea 2019). At the same time, they had to be stripped down of any element that would not add to the understanding of the peculiar way the two sites interacted in defining the category.

Circular Relations and Individual Contributions

- I now turn to the comparative side of the i-doc. To visualise and mediate the researchers' work, the platform prompted the creation of clear, objectifiable links between the various regions in the i-doc map. In other words, rather than taking for granted comparison, coding the digital platform means thinking about how comparison works in a specific interactable way.
- To create the links, each researcher provided their interpretation of the comparison work. This exercise happened in two stages. The first was a collective meeting, and the second was a series of individual encounters between the researchers and me.
- In the team meetings, we discussed a possible dictionary to reinterpret the four categories. Everybody chimed in, creating different interpretations and helping one another refine their own perspectives. Rather than using the categories as the grid to fill with pre-made definitions of each analytical category employed to investigate the field (solidarity, diversity, skill and scale), the research group planned and used the ethnographic experience to re-evaluate and dissect what the analytical categories would stand for in each field site. Everybody had to listen and build upon the feedback to sharpen the heuristic value of the categories.

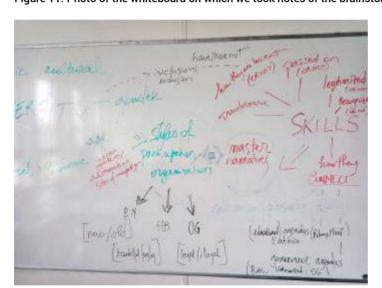


Figure 11. Photo of the whiteboard on which we took notes of the brainstorming discussion

While the researchers discussed the categories, the principal investigator Cristina Grasseni wrote down their reflections on a whiteboard to visualise the expanding links of meaning that emerged from the brainstorming session.

Photo by Federico De Musso

- In the following phase of reflection, individually, each researcher reinterpreted how each field site can be linked to others in the light of the discussion.
- Thus, the i-doc not only mediates the team's work as a whole, but it also grants space to each contribution. While the first brainstorm offered a space to listen to one another and find feasible ways to rethink the analysis, the second step brought to the fore the individual perspectives. Hence, these links might not be univocal if one line goes from point A to point B, the line from point B might not link back to A. They follow the comparative reasoning that each researcher has envisioned for their own field. The

- disjuncture between the lines reflects the dialectic work of the researchers. Following the lines spreading through the map, the i-doc reproduces the epistemological circularity that has characterised the research group's collective brainstorming.
- This platform aspect deepens the part that contributes to the comparisons between elements and the roundabout movement of the group's epistemic circle. While following the lines, the user can go around the map without going back to where she started. This way, the aspects of each interpretative category that specifically and peculiarly characterise each site encourage users into new directions. Once again, the circular movement reflects the ways the brainstorming took place and how we collectively and dialectically created the links and their content for the map. To better represent and highlight the rounds of interaction, I designed the main interaction handle in the i-doc as a circle.

Figure 12. Earlier concept of the dial



The first concept of the analytical wheel shows the gradient of four colours, one for each category. Graphic by Federico De Musso

- I have argued that the dial in the top left of the i-doc reproduces and mediates the work of comparison that both the user and the researchers engage with when using the i-doc. The dial also mediates the roundabout relations to enable teamwork. To revisit them, the user needs to engage with the dial.
 - This media file cannot be displayed. Please refer to the online document http://journals.openedition.org/anthrovision/6885

Video link: https://vimeo.com/733908266

If, for Webmoore, learning code is an ethnographic practice (Webmoor 2014), in this case, writing code is akin to *ethnographic writing*. It helps familiarise the user/reader with the complex systems of relations of the field, and also mediates and reifies the anthropologists' reflections and montages. Importantly, it also happens on multiple instances, in different media or modes (Collins, Durington, and Gill 2017) – for example,

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Excel files, lines of scripts, and bits of word documents. It also conveys an *ethnographic* volume in the end.

- Writing the code that regulates the interaction with the i-doc informs on how categories and descriptions need to be organised and mobilised in the interactive document. By iterating, editing and rewriting it, I designed an interaction that could represent our research teamwork. This way, I have engaged a particular kind of multimodal ethnography that worked on dials and functions as much as on images and text.
- For instance, the next images show part of the script that regulates the dial on the top left of the documentary. It works by clicking on it, holding it, and rotating it like a knob. The following is the line of code that regulates human interaction with the platform:

Figure 13. The code that makes the dial work

```
const run = (knob, circle, cat1,cat2,cat3,cat4) => {
   let active = false;
   //start
   knob.addEventListener("mousedown", e => {
        active = true;
   });
   // stop
   document.addEventListener("mouseup", e => {
        active = false;
   }
}
```

These lines of code enable the "event listener" that translates holding down the mouse's click into an action.

Screenshot by Federico De Musso

- By rotating the image of the dial, the colour of the wheel gradually changes to reveal the next analytical subject. The gradient helps solve the contradiction of both the comparison and its mediation through the i-doc. As I argue, the researchers throughout their research process had to avoid filling the grid with pre-made analytical answers to enact the comparison. Yet, for the documentary to work, they ended up filling an Excel grid (figure 9) with the different meanings that comparison bestows on each category. In order to represent the openness of the researchers' interpretation of the working analytical categories, by using colours and gradually switching from one to another, the dial helps visualise them as different variations whose boundaries the ethnographic reflections blur.
- While narrowing down categories and elements on the map looks like a "modern" exercise in boundary-making and purification (Latour 1993; Douglas 2003), the work of establishing these connections also rendered evident how the categories we used were porous and often blurred their domains. Terms like "solidarity" could easily describe how people expressed their wish to be empathetic with others, as much as how people expressed they felt obligations towards their food procurement buddies. However, the second interpretation of "solidarity" shed light on the "scale" category as well as these obligations might depend on the level of formalisation of collective action.

An attempt to define these categories showed how they affected one another. The work on the platform indicates that these categories need to acquire new meaning at any iteration. However, the effort to find unique ways to describe the categories for each of the cases prompted the researchers to consider every nuance that, though blurry, could make the comparison worth exploring and non-repetitive. By rotating the dial, users can sometimes see that the lines on the map do not change position but only their colour – as, for instance, nuances in solidarity and scale help clarify the same relation between field sites. Colour also helps them visualise how these relations and links are related to one another and how their work of comparison through the lines blurs the grid's rigidity.

Figure 14. The code that makes the lines work

```
// active status
if (active) {
   if (0 < angle && angle < 90) {
      rotate = angle + startAngle;
      //knob.style.transform = `rotate(${rotate}deg)`;
      cat2.style.display="block";
      circle.style.stroke="#COBE24";
      diveC.style.display="block";
      }
   else{
      cat2.style.display="none";
      diveC.style.display="none";
    }
}</pre>
```

These lines of code enable the platform to recognise where in the dial the mouse is going – creating a sense of circular rotation.

Screenshot by Federico De Musso

Moreover, to recognise the webpage's intervention, the JavaScript programming language calls the user's interaction "event listeners." For the page to work, it needs to listen for 'events' (clicks of the mouse, movements of the mouse, etc.) to happen. The work of the dial, thus, enables different moments of listening and acts concordantly, revealing content. For instance, upon listening to the mouse's rotation, the i-doc shows ("block" in figure 13) information about the research category that corresponds to that quadrant.

Figure 15. The code that draws the lines

```
// get (top, left) corner coordinates of the svg container
var svgTop = svgContainer.offset().top;
var svgTop = svgContainer.offset().left;

// get (top, left) coordinates for the two elements
var startCoord = startElem.offset();
var endCoord = endElem.offset();

// calculate path's start (x,y) coords
// we want the x coordinate to visually result in the element's mid point
var startX = startCoord.left + 0.5*startElem.outerWidth() - svgLeft; // x = left offset + 0.5*width - svg's left offset
var startY = startCoord.left + 0.5*startElem.outerWidth() - svgTop; // y = top offset + height - svg's top offset

// calculate path's end (x,y) coords
var endX = endCoord.left + 0.5*endElem.outerWidth() - svgLeft;
var endX = endCoord.left - svgTop;

// call function for drawing the path
drawPath(svg, path, startX, startY, endX, endY);
```

These lines of code enable the platform to draw the lines. Programmed by aloijzije

- To write and combine code took several iterations to accomplish. I have rewritten the second piece of code departing from a selection of code by GitHub user "alojzije" (alojzije n.d.). Functions and examples of code populate the internet. Although available, code snippets are not readily implementable in one's own programming code. The writer needs to adapt and make sure the new bits "talk" and "respond" to the other parts of the script. Therefore, I needed to structure her code to allow data to give feedback to the rest of the program. Interacting with the code then attunes the programmer/ethnographer to different kinds of listening that carefully engages with different types of writing and social interaction.
- As ethnography is an exercise in clarity, coding offers an excellent way to experiment with it. On the one hand, it represents a good writing exercise and the practice of listening to how meaning circulates and changes. By writing different iterations of code, mechanics and concepts became clearer to me. On the other hand, coding also serves the purpose of creating easy ways for users to visualise how these concepts and interactive mechanics relate to one another. Moreover, similar to our circular brainstorming, writing code also added to the feedback. The theoretical work of comparison was thus also brought about by the applied multimodal ethnography, in the form of collaborating with the researchers and writing ethnography in web developing languages like JavaScript, HTML, and CSS.

Collective Image Procurement and SVG Aesthetic Formations

- To work, the i-doc needed the organisational structure that allowed the field sites to orderly correspond to interactable objects on the map. The i-doc, however, further structured how the researchers conducted the multimodal ethnography and made their images.
- The plan of making an i-doc within a comparative framework for the whole project guided the media making tasks of the team. I devised guidelines for the researchers to know how to contribute to an interactive documentary and implement the "collective procurement" of images, and I visited the three field sites to make sure the media we had could work in the documentary.

Due to the non-linear editing and comparative aim of the i-doc, the iteration of image-making affected how the researchers had to make an extensive effort in documentation (Weidle 2019). In the i-doc, they had to be able to depict each instance of the comparative settings the research project considered. This "collective media procurement" mirrored the practices the researchers were studying, complementing different examples of co-production and skills exchange (such as collaborative film-making and engaged activist video-making). The guidelines helped produce images that could "talk" to the materials collected in the other cities, thus creating multiple juxtapositions within the i-doc. For example, the following three videos exemplify how practices of food recycling take place and involve three different material contexts that affect the ways in which people come to think about this practice in the three cities.

This media file cannot be displayed. Please refer to the online document http://journals.openedition.org/anthrovision/6885

Video link: https://vimeo.com/726628911

60

61

This media file cannot be displayed. Please refer to the online document http://journals.openedition.org/anthrovision/6885

Video link: https://vimeo.com/726628736

- While sorting recycled food out in Rotterdam takes place among the plastic packages and everyday cordial conversations with supermarket employees, in Turin, the same practice is performed in a small open-air market, among wooden boxes, garbage containers and quick interactions with well-known vendors. Finally, in Gdańsk, food recycling occurs in a big market where recyclers are gifted with large quantities of set-aside food by vendors.
- While the dial mediates the work of the researchers' comparison, the videos and photos in the platform channel the material context that make up the instances of food procurement. They provide the possibility of visualising the material media that creates the environment in which these actions take place. Following Birgit Meyer's aesthetic formations (2009), the experience and use of materials present in people's everyday lives mediate their sense of belonging to the social formations around them. The collectives of food procurement that the research project investigated, then, revolved around practices mediated through specific material forms in which food procurement existed and that the researchers documented.
- Different brainstorming moments before, during, and after the fieldwork facilitated an understanding of how to focus and gather images. The various, recurring brainstorming activities then informed the very practice of media making. The brainstorms among the researchers brought to the fore a collective attempt to enskilling visions (Grasseni 2007) towards aesthetic formations in the field. As the brainstorming happened at different intervals, accounting for individual ethnographic idiosyncrasies in the field, circularity was present in the logic of the project and thus in the reflections about image-making, too. By making images, reflecting on them, and going back to make more, the research team members focused on showing instances around food procurement that could mediate the materials that helped to show what

alternative procurement was and how people's sense of belonging around those practices formed.

- The project's 'taking-stock' sessions spanned nine months in total over the period March 2019-June 2019 and January 2020-January 2021 (after pre-fieldwork, after six months of fieldwork, and at the end of the fieldwork). Consistently within that framework, for the i-doc we wanted to have similar results that could "listen to and reveal" something about one another. The images of crates, vegetables, animals, and makeshift market stands populate the i-doc to depict how the material aspects of the phenomena in the three cities might differ and how they involve different social actors that may look at them differently.
- These material elements brought to light the visible and common material struggles across the three fields. As Vasile and Grasseni point out (this issue), these food procurement activities are embedded in relations that are affected by tensions of urban renovation. While these activities mediate different aesthetic formations to food, they are also caught up in conversation with gentrifying dynamics that take place around them. These conversations might be residing in practice like in the material the researchers depicted in the field as much as at the level of visual communication between interlocutors.
- The following images are two examples from Orti Generali in Turin, and Inicjatywa Miasto in Gdańsk. The two initiatives count on landscape architects to rethink the urban space.

ORTI INDIVIDUALI E FAMILIARI

Figure 16. Map of Orti Generali in Turin

The map is drawn with few colours and simple shapes that only hint at volumes https://www.ortigenerali.it/scegli-il-tuo-orto/ (accessed July 4, 2022)

Figure 17. Line art architectural representation.



An example of the minimalist design in architectural communications about a project by Inicjatywa Miasto

http://inicjatywamiasto.pl/portfolio/uchwala-krajobrazowa/ (accessed July 4, 2022)

- The two images offer streamlined visions of an urban or semi-urban environment. They are both designed as vector images, and as such they do not take up much space on webpages. While much of the design responds to the need for accessibility both being able to download the image and read it without problems it still conveys a lean and clean portrayal of what those places should look like. By streamlining and polishing the design, much of the excess information and the excess material life is removed. As Michael Jager noted (Jager 2013), gentrification works by "stripping away external additions, by sandblasting, by internal gutting" all elements that remind us of the previous life and previous inhabitants of the built environment (2013:83).
- To show how these conversations take place in the general context of the push for urban renovation, I designed the map for the i-doc by using vector imaging (SVG) and reproducing the frontal representation of the field sites in the three cities. This format does not require writing additional code. Similarly, to the urban renovation illustrations, the rationale behind it presupposes a swifter and lighter design. And while the map offers aesthetics akin to urban renovation projects, the i-doc's media content brings back the dialogue between forces that adapt or resist these aesthetic and social changes.

Conclusions

- 70 Code writing as a new mode of ethnographic writing has helped me to express the nuances of participating in collective practices of research and reflect on how ethnography reconfigures analysis and the relation between the anthropologist and her field.
- 71 This writing modality helped me introduce the work of the research team and the research goal of comparison through interactive tools. This endeavour situates itself in

reference to the work of other i-docs that offered elegant and sensible solutions to the issue of users' agency. Those examples introduce issues of accessibility that the *Food Citizens*? i-doc needed to address so as to provide both universal access to content and an informed and guided tour through it. The two types of interactions are the unresolved tension between users' freedom, and the ethnographers' curational efforts in evoking the limits and relations between concepts that emerge from extensive collaborations among researchers and with the interlocutors during fieldwork.

- 72 This double access offers insights into mediation while facilitating comparison for the researchers. The i-doc presented the researchers with a tool that helped them to visualise content about food procurement while at the same time creating the possibility to think critically about what to do with these visualisations namely how to think through the comparison without othering and classifying *a priori*.
- 73 The i-doc structure and its materiality i.e. the way the code works warranted cycles of "listening and revealing" that guided the comparison. These cycles occurred both at the research group level, and in the programming language I used to write the i-doc. Coding becomes a paramount tool in multimodal ethnographic writing, as it helps shape the analysis as much as it organises ethnography differently for dissemination.
- At the same time, to disseminate knowledge about aesthetic formation, the researchers had to go through feedback cycles that helped them sharpen their attention to material culture. As a result, the researchers brought to the fore discussions and examples of how alternative food procurement groups engaged in conversation with gentrifying agents and aesthetics. To reflect upon this, I argued that the i-doc offers an example of minimalist design that mirrors the gentrifying field that interlocutors face, while it also contains the ethnographic data that the researchers collected in the field.
- 75 The i-doc, thus, represents an invaluable tool to develop analytical research skills, think collaboratively, and rethink writing conventions opening new horizons for ethnographic writing and collective practices in anthropology.

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NOTES

- **1.** Drawing on Gibson's ecological and epistemic notion of *affordances* (Gibson 2014), Cristina Grasseni and Florian Walter interrogate the digital space as an environment with its own specific abilities to facilitate knowledge production.
- 2. Collins, Durington and Gill invite visual anthropologists to acknowledge the changes in pace that the pervasive presence of cameras have brought to the discipline; the widespread and different kinds of media practices visual anthropologists engage with and their collaborative nature; and the multiple hats ethnographers must wear when juggling requests from the discipline and from field interlocutors.
- **3.** Cristina Grassini shows how "to be able to see [becomes] shorthand for being well-integrated into the environment of one's practice, and especially to have certain socially accepted skills including that of knowing how to learn to pay attention to the right people and to the right features in one's environment" (Grasseni 2009, 85).
- **4.** A different take on this tension would be to make or train algorithms that offer semi-open choices by introducing random events and choices within linear paths of storytelling. An exploration of the i-doc can then proceed within the frame of a narrative, without disrupting the fabric of the story but at the same time it would also grant ample freedom of choice within this framework. The game "Reigns" (Alliot 2016), a feminist fantasy-royalty simulation, represents an interesting instance of such approach. It works as a narrative game that offers different events to which the user needs to react. These events come from arrays of possible events. While the evets themselves are chosen randomly, the arrays are not. The algorithm learns from the users' choices and accordingly picks arrays that match the storytelling the user is contributing to adding a structure to the total randomness of the experience (Alliot 2017).

ABSTRACTS

Interactive documentary are epistemological tools that can help shaping and fostering comparative reflections in collaborative ethnographic projects. This paper analyses the process of planning and coding a digital platform – an interactive documentary – as part of my work in the Food Citizens? ERC Project. I will consider images and lines of codes that exemplify how making the digital platform mediate the processes of comparison and collaboration. Specifically, I discuss how the process that guided the i-doc coding comprised of collaborative sessions by the research team members to make an inventory of possible comparisons between field sites, while a bespoken comparison dial makes it possible for the users to digitally browse through them.

Les documentaires interactifs sont des outils épistémologiques qui peuvent aider à concevoir et à favoriser des réflexions comparatives dans le cadre de projets ethnographiques collaboratifs. Cet article analyse le processus de planification et de codage d'une plateforme numérique - un documentaire interactif - dans le cadre de mon travail au sein du projet Food Citizens? ERC. J'examinerai les images et les lignes de codes qui illustrent la manière dont la réalisation de la plateforme numérique permet de médiatiser les processus de comparaison et de collaboration. Plus précisément, je discute de la méthode qui a guidé le codage de l'i-doc, à savoir des séances de collaboration entre les membres de l'équipe de recherche afin de dresser un inventaire des comparaisons possibles entre les sites de terrain, tandis qu'un tableau de comparaison sur mesure permet aux utilisateurs de les consulter numériquement.

Los documentales interactivos son herramientas epistemológicas que pueden ayudar a dar forma y fomentar las reflexiones comparativas en los proyectos etnográficos colaborativos. Este artículo analiza el proceso de planificación y codificación de una plataforma digital -un documental interactivo- como parte de mi trabajo en el proyecto Food Citizens? Proyecto ERC. Consideraré las imágenes y las líneas de código que ejemplifican cómo la elaboración de la plataforma digital media en los procesos de comparación y colaboración. En concreto, discuto cómo el proceso que orientó la codificación del i-doc consistió en sesiones de colaboración por parte de los miembros del equipo de investigación para hacer un inventario de posibles comparaciones entre los sitios de trabajo de campo, mientras que un dial de comparación hace posible que los usuarios puedan navegar digitalmente a través de ellos.

INDFX

Palabras claves: i-doc, comparación, mediación, programación

Keywords: i-doc, comparison, mediation, programming **Mots-clés:** i-doc, comparaison, médiation, programmation