Participatory Ageing as Assemblage: Infrastructuring in Practice

Guillem Palà
Independent Researcher

Gonzalo Correa
Universidad de la República, UY

Abstract: Scientification and technification of later life have pushed the very notion of ageing, embracing materiality as one of the co-producers of a continuous process of becoming. In this paper, we want to explore the role of materiality in a mechanism designed to allow older people to develop arguments regarding digitalization to inform public policies. To achieve this aim, we will employ a concept that will unfold the layers with which theories of ageing are configured in practice: infrastructuring. In our particular case study, this will highlight the coordinated effort among different agents needed to identify, negotiate and prove who can be considered a legitimate older citizen. Along this path, we will face three instances where the theory is challenged by practice: 1) the very sense of what an infrastructure is; 2) the theory about what a consensus conference is; and 3) what the definition of older person is. To conclude, we suggest the necessity to switch the very question about who can be considered an older person to how in a certain context a heterogeneous assemblage of (human and non-human) actors defines what an older person is.

Keywords: assemblage; consensus conference; doing age; infrastructuring; older people.

1. Introduction

Demographic ageing is a significant challenge that industrialized societies have already faced during the last decade and one that will only grow more influential in the future (Phillips 2011; Schuitmaker 2012). Since the attestation of this tendency, it has been broadly agreed that the response to

TECNOSCIENZA
Italian Journal of Science and Technology Studies
11 (2) pp. 33-52 - ISSN 2038-3460
www.tecnoscienza.net

2020

this grand challenge should be provided by science, technology and innovation (Cagnin et al. 2012; De Smedt et al. 2013; Mort et al. 2012; Roberts and Mort 2009), even though the particular articulation of this movement and its effects are still a matter of discussion. It has been argued, for example, that, despite an increasing amount of studies in the field of ageing and technologies, a lack of theorization is apparent (Sixsmith and Gutman 2013). What seems clear is that scientification and technification of later life have pushed the very notion of ageing, stretching it out not only beyond the biological - ageing bodies (Baars 1991; Dannefer and Daub 2009; Marshall and Katz 2002) - but even beyond the social, as well into what has been called a socio-material constitution of later life (Endter 2016; Peine et al. 2015; Wanka and Gallistl 2018). Materiality, in that sense, is considered to be one of the co-producers of a continuous process of becoming (Urban 2017).

Within this context, the very question highlights the role that those concerned should play in these reconfigurations and the threats associated with excluding them from the instances where possible futures are drawn given that what is at stake is the way to connect scientific and technological production with democratic ideals (Callén et al. 2009; De Vries 2007; Mort et al. 2013). This query is particularly relevant when it comes to considering the elderly, a social segment that is continually in danger of being excluded from social and community participation (Everingham et al. 2009). Indeed, in many European countries, the public policies regarding the welfare of older adults have frequently been developed without any involvement of or input from their beneficiaries (Carney 2010; Mort et al. 2009).

In this paper, we want to focus on a mechanism designed to allow the elderly to develop arguments regarding digitalization to inform of public policies: the Citizen Conference of Barcelona's Older People about the Digitalization of Society, carried out in 2013. The initial aim of the organizing team was to carry out an adaptation of the standards of the Danish model of the consensus conference, to include a concerned collective. Accordingly, starting from the design of the conference, we will show the successive modifications needed to allow older people to engage in the experience under the most careful conditions. As we will see, the initial considerations of the organizing group of the conference, which took biological age as a statistical criterion to run the call for participation, soon faced other considerations regarding who can be considered as an older person. That is why we consider it to be more appropriate to investigate what an older person may be as a process towards the recognition of all the entities that take part in the identification, negotiation and proof of who can be considered to be a legitimate older citizen. We will develop a concept that will unfold the different layers where the theories of ageing are set in

practice, called *infrastructuring*. Highlighting the coordinated effort needed among different agents to stabilize a specific collective. Along this path, we face three issues where theory is challenged by practice: 1) the very sense of what an infrastructure is; 2) the theory about what a consensus conference is; and 3) the meaning of what an older person is.

2. Doing Age: Infrastructuring Older People's Engagement in Science

Since there are many ways of ageing - according to a mix of cultural, class, gender or ethnic conditions - defining it is a complex task. In that sense, the institutional approaches to what an older person is are normally based on statistical criteria. Most countries have accepted the chronological age of 65 years as a definition of an older person, coinciding with the age when one can begin to receive pension benefits. Thus, this definition relates the condition of an older person to the absence of productivity (Ranzijn et al. 2002). Although the common use of a natural age to mark the onset of old age is the equivalent of using the biological age, it is generally accepted that the two are not necessarily the same (Burholt et al. 2020). In many parts of the world, the economic and social stratum or the urban condition to which a person belongs is much more relevant than the chronological age in the conceptualization of old age (Gorman 1999; Marston and van Hoof 2019).

Furthermore, the progressive scientification and technification of later life have acted as a call for academics - and non-academics - from different perspectives to open new ways of conceptualizing the relationships between people, mostly of advanced age and different materialities, mostly characterized as new technologies beyond chronological age. From telephonic companies to policy makers and from health professionals to bus drivers, it is difficult to find a collective alien to this new configuration. Notably, two propositions have obtained a broad consensus within the new contemporary approaches to age theorization: 1) age is a practical process that is being performed; and 2) human and non-human agents are involved in this process (Wanka and Gallistl 2018, 6-7). For all of these reasons, we consider ageing bodies and digital technologies as co-producers of continuous materializations and hence the construction of age itself. In this way, age is understood as an "interrelationship of societies and technologies" (Urban 2017, 3). Undoubtedly, one of the main reasons that have contributed to fostering this agreement is the shared rejection of foregrounding theoretical proposals that take the isolated subject as a hermeneutic being by itself. Age is not something that concerns only the subject. Indeed, John Dewey already pointed out the necessity to know "the ways in which social

contexts react back into biological processes as well as to know the ways in which the biological processes condition social life" (Dewey, 1939, xxvi). In that way, if there is, at least, a subject result of the interaction between the biology and the social, it means that we have to apply a transitive character to age, turning it into constant ageing.

Although discourse generally directed at people, ageing would not be possible without the whole network of institutions, companies, social practices and technological developments (in a broad sense) that provide it with substance. Hence, we want to focus on those materials that allow subjects and discourses "to matter" in the definition of who an older person is or, more accurately, what an older person is. Accordingly, we consider it to be appropriate to introduce a notion that will help us explore the role of materiality in our particular study case: infrastructure.

The use of the term *infrastructure* is not a minor issue here. We consider the arrangements and configuration of the citizen conference as an infrastructure, since it is a properly designed setting that is crucial to the development of different practices and to the emergence of particular communities (Star 1999). Thereby, Star's conceptualization of infrastructure is not guided by a Marxian idea of infrastructure (Ferguson 2012) because the scope encompasses not only power relations and ideologies but also, above all, particular (human and non-human) modes of existence (Graham and Thrift 2007). In this way, a particular design directly establishes certain limits on the definition and negotiation of identities. However, we are not arguing that the infrastructure determines what an actor may become since the actors do not act within a backstage, where reality is hiding (Mol 2002). Instead, they configure particular collectives with the infrastructure. As Michael (1996) stated, we are inseparable from the things around us. Namely, identity is always formed in an assembled way. This is especially relevant when we take into consideration our particular case study since, when we discuss techno-scientific issues, we are debating at the same time what world we want and who we are as a collective (Stengers 2005). That is why we aim to turn the focus to the way in which we infrastructure this composition, stressing the acting part of the infrastructure in the whole configuration.

Linked to the idea of infrastructure, Star underlined the role of standardization as a normative process that sustains or excludes any object or subject of a particular assemblage (Star and Bowker 2002; Star and Ruhleder 1996). For that, and to emphasize the idea of the process and constant change, we can introduce a nuance with respect to Star's definition of infrastructure to expand its reach. Following Karasti and collaborators (Karasti and Syrjänen 2004; Karasti and Baker 2004), we use the term *infrastructuring*. As Helena Karasti (2014) states, they coined the term

infrastructuring inspired particularly by Star and Bowker's article, *How to Infrastructure* (2002). The term emphasizes the processual, ongoing quality of infrastructuring activities and pays attention to the extended periods during which infrastructuring unfolds (Karasti 2014, 142). According to this perspective, infrastructuring could be considered as a particular participatory practice that provides socio-material resources and experiences by way of attachments to the constitution of collectives or communities gathered around common issues. The primary and distinctive feature of this concept is its openness. This ongoing process includes other previous infrastructure activities, so, as Le Dantec and Di Salvo (2013, 255) highlighted, "an important aspect of infrastructuring is recognizing that those attachments are dynamic; they will change, often in unanticipated ways".

3. Research Setting

3.1 Making a consensus conference with older people

The Citizen Conference of Barcelona's Older People about Digitalization of Society was the result of a broader research project carried out by the GESCIT research group (nowadays STS-b) between 2012 and 2015 - from now on identified as "organizing team". The outputs of several previous projects focusing on the crossroad between science, technology and older people suggested changes in the way in which Spanish society perceived the role of science and technology in the daily lives of citizens and showed the implications of expert knowledge and technical devices for ageing, identity construction, social organization and institutions. Considering these, one of the main aims of the project was to design and implement a consensus conference focusing on older people. The proposal was to test the strengths and weaknesses of the mechanism in terms of the capacity to join experts and older people in the same collective. At the same time, we were interested in allowing the members of this concerned collective to express their views regarding digitalization and even to assess public policies.

The existence of a concise manual systematizing all the standards needed to organize a successful consensus conference (Nielsen et al. 2006), as well as the related literature, brought clarity regarding the limits and scope of this participatory device (Einsiedel and Eastlick 2000; Fixdal 1997; Grundahl 1995; Kleinman 2000; Kleinman et al. 2011; Petts and Niemeyer 2004). Nevertheless, in placing a concerned collective, such as the older people of Barcelona, as the citizen panel of the mechanism, we contradicted one of the main principles of the original model, the one stating

that the selection of the lay panel should be ruled by random representational criteria. The call for participation addressed only to older people, remained open from October to December 2012. Ultimately, from the people who applied to take part in the conference, nine men and four women were selected as members of the citizen panel. The places of residence of the final thirteen participants were relatively evenly dispersed across Barcelona, with at least one from every district.

From that point, we started to realize that some of the conditions imposed by the manual on the participants were quite demanding. The manual of the mechanism points out the need to introduce full and restrictive timetables to deal with a considerable workload, resulting on the decision to extend the whole process, adding more time than planned to make it less exhausting, from 9 January to 15 February 2013.

The first stage, considered as "preparatory", consisted of six meetings distributed across two non-consecutive weeks and carried out in a centrally located hotel in Barcelona. During this period, the participants in the citizen panel were to become familiar with the topic of the conference and select specific issues of interest, those being: economy and ICT, solitude and ICT, motivation and education, gender and ICT, administration and civil society, and health and usability. A recently retired professor in group dynamics - someone who was closer in age and interests to the participants - was responsible for giving the majority of instructions to the citizen panel. One important output of the preparatory stage was the formulation of questions to be answered by a panel of experts in the next phase.

The second stage was the public phase of the conference, held at the Contemporary Culture Centre of Barcelona (CCCB). There, the citizen panellists presented each topic of interest in an oral exposition, giving an account of the discussions that had taken place during the preparatory sessions and posing the questions that the citizen panellists had agreed to ask the experts. Then, several experts on particular technological issues replied to the lay participants' questions. This second stage took place on two days, 12 and 14 February 2013.

Finally, in the third stage, the citizen panel met for two more days — the first at the CCCB and the other in a municipal building - to produce the final document outlining its conclusions and recommendations. This document was subsequently delivered to the City Council at a public event attended by the organizers and the panellists (Citizen Conference of Barcelona's Older People about Digitalization of Society 2013).

3.2 Methodological approach

We began by realizing that the citizen conference mobilized not only people but also a multitude of things, such as institutions (the Barcelona City Council or the CCCB), materials, papers, wires, tables, Internet connections and so on. That is why we argue the necessity of following a device-centred approach to take into consideration not only the discourses but the whole range of materialities that are conjugated and shape the mechanism. This is an indispensable action to recognize the political participation of things in deliberative devices (Marres 2011; Marres and Lezaun 2011).

For our research, we adopted a methodological strategy able of dialoguing with the ongoing mechanism of the consensus conference. In that sense, we developed a multi-situated ethnography (Marcus 1995), exploring the different sites within the participatory mechanism, from its design to the public event where the final report was presented (city hall offices, older people's houses, meeting rooms, conference hall, etc.). In the context of this ethnographic study, we employed different techniques that allowed us to take into consideration three sources of data. Firstly, we considered the resulting fieldwork notes and video recording (Jensen 2005) obtained through participant observation as part of the organizing group of the citizen conference. Secondly, the interviews were carried out with different actors at different stages of the experience (Powell and Kleinman 2008): in the selection process, during the preparation stage and later, when the CC had finished. Furthermore, we proposed that participants should write a diary to register their own experiences, indicating that they could include any impressions, feelings or opinions about their condition of being panellists (Jacelon and Imperio 2005).

4. Assembling Ageing and Politics through Infrastructuring

In the construction of the citizen panel, several socio-material processes were conducted. In this analysis, we will show how the infrastructural aspects sustained a particular mode of doing age in a public engagement with science mechanism. Accordingly, firstly, we will show the process by which the selection of participants is infrastructured. Then, we will present the way in which the infrastructuring process supports the constitution and legitimization of the citizen panel. Finally, we will highlight the necessary care practices to hold the assemblage between humans and things.

4.1 Infrastructuring older participants

The question regarding who can be considered an older person arose at the very beginning of the citizen conference. This point should be clear when

calling for participation in an experience meant to address older people. In that sense, the organizers should define it before launching the call for participation. The first parameter considered by the organizing team was age, which is a statistical criterion. Some national laws and norms (such as the Promotion of Personal Autonomy and Attention to Dependent People Law, in Spain) and several institutions concerning ageing (such as the Institute for the Elderly and Social Services, known by its Spanish acronym IMSERSO) establish a minimum of 65 years: people beyond this age should be considered older people. Taking this minimum into account as a standard, the organizing team prepared a call for expressions of interest addressing this particular population. Thus, in the distributed flyer, one could read, "Who can participate? People older than 65 who live in Barcelona". The call for participation remained open from October to December 2012.

Overall, after the call for participation, we received 28 applications - although we had expected around 50. After the applications had arrived, we interviewed the candidates to select the participants. The process by which a citizen panel is selected is always the focus of much debate (Irwin et al. 2013) since it supposes selection and judgement regarding acceptable behaviours (Laurent 2009). This already involved adding criteria to the configuration of our target older people beyond age. To be chosen, first, people had to be communicative and have the dialogical capacity to take part in situations of debate. This requirement casts doubt on the inclusive nature of the deliberative mechanisms based on traditional means of speech and on an ideal model of communication inspired by the Habermasian discourse theory (Cohen 1999) since people who do not have certain speech and communicative capacities have to be refused participation in this kind of mechanism. Secondly, the selection interviews worked as an opportunity to assess people's engagement: people had to have enough time to participate in all the activities of the conference. Hence, many women told us that they could not participate because they had to care for their grandchildren and husbands. Even though, after the first round of interviews, we made an effort to contact women from different neighbourhoods, we did not succeed in configuring a gender-balanced panel.

This shows that becoming a member of the citizen panel does not only concern age. To become an older citizen in this context, one also had to have the time to take part in a lengthy process - sometimes disregarding some care practices that one is expected to undertake.

During the selection interviews, it was made clear that not only the particular standards of the consensus conference or the logics regarding active ageing (Sixsmith and Gutman 2013) were challenging our early definition of older people. The applications of two candidates exemplify that

enrolment was not a unidirectional act but a process in which every actor actively participated, manifesting particular interests and purposes to contest our initial assumptions. In that sense, these two candidates, who were younger than 65, considered themselves to be older people and deployed different strategies to become participants. In one of the cases, the applicant completed the online form and wrote in the blank corresponding to age that he was 65 - that is, he lied about his age. Later, in the selection interview, he revealed his real age. He justified his deception by arguing that, if he had given his real age, 63, he would not have been chosen. He added that he considered the limit of 65 to be unfair and discriminatory.

> It was said, "If you are older than sixty-five …" in front of which I revolted and said, "Well, why this limitation? I am a person who is not looking for a job. I am completely retired. I have similar rights as a retired person in their eighties. I do not care! I will not look for a job… so, why this limit of sixty-five?" So, I revolted, and I applied as an act of rebellion. (Extract from the post-conference interview, Participant 4)

This excerpt shows that some strategies could be adopted to challenge the definition of who is an older person by adding other entities to it. That is why we consider it to be more appropriate to explore what an older person is than who an older person is since the definition extends beyond the individual. In particular, in this situation, we can tackle two aspects intending to define what an older person is. Firstly, according to Participant 4, taking part in a network aiming to exchange activities for money (as waged labour activity is) or, on the other hand, not being linked with this network (being retired) should be added as a criterion to delimit what an older person is. Secondly, every delimiting action of identity is an act of force that causes inclusion and exclusion effects. For Participant 4, being excluded from the elderly group is an unfair and discriminatory action. As a consequence of these two aspects, the initial definition of an older person became broader and more complex.

Another situation that challenged the organization's first assumption that being an older person involves being aged 65 or over involved a participant who merely wrote his real age in the blank - 63 as well. Given that the online form enabled anybody of any age to register despite the age limit, he could apply and was ultimately interviewed. What would have happened if that online form had been programmed with a drop-down list containing limited age choices? The option of the second participant would not have been possible; he would have been excluded from the experience or forced to change his strategy to take part. These assumptions are useful as they prompt us to think about how this kind of (software)

infrastructure acts to define who can be enrolled in this kind of experience, showing the range of possible negotiation. Both applicants were finally selected and were able to participate in the experience, modifying the original age range of 65 and older.

As we can observe, identity involves not only people but also everything that comprises their daily life - that is, their material relationships and their variations. In that way, identity can be presented as a formation that actualizes a series of heterogeneous relationships (we are thinking of the actions and features that define an older person, as explained by Participant 4 for example). The definition provided by the organizers ("an older person is anyone over 65") can be considered as a master narrative of this participatory infrastructure (Star 1999) based on the construction of socio-demographic indicators. Given its standardized capacity, it erased, hid or, at least, put aside specific nuances written in minority narratives. Nevertheless, the participatory infrastructure allowed the possibility of contesting the master narratives and even promoted the emergence of new meanings regarding what an older person may be.

4.2 Infrastructuring older citizens

In spite of 13 participants being chosen through the selection process to take part in the consensus conference, after considering their availability and disposition to take an active role in the development of the conference, that recognition alone was not enough. Henceforth, they were supposed to demonstrate that they could effectively become a constitutive part of the citizen panel. Accordingly, although participants were recruited as virtual citizens (Levy 1998), they should prove the civic capacities needed to be considered legitimate citizens (Powell and Kleinman 2008). This can be shown by one of the most recurring demands requiring an active role of participants to be engaged in collective discussions:

> In the debates, there are people who want to demonstrate expertise in new technologies and explain the devices they own. On this subject, others remain silent. (...) I surprised myself by interrupting people who were speaking. (Diary excerpt, Participant 1)

In that excerpt, we can see that, even though some of the participants were not familiar with the use of some technologies, they were asked to talk about them. Despite their initial concerns about not being able to take part in the discussions, many participants turned their worries into active engagement in the very early stages. Step by step, many of the participants earned a deep sense of self-trust until they gained the impression of being

able to engage in discussions with experts on equal terms. This can be shown by the next excerpt, in which one of the citizen panel members expresses her impressions of a meeting where the citizen panel held a discussion with five members of the steering committee (a group composed of researchers, members of civic associations, entrepreneurs and so on). This took place during the last session of preparation and, apart from fostering the encounter of the two groups, the meeting served as a rehearsal for the group since it would be the first time that they would face experts:

> Five collaborators were presented from different fields and then we presented our questions and our conditions. They have explained things, each within their knowledge. (…) It was interesting to see how people inside the issue have a vision not so different from ours and that they do things to improve the quality of older people's life. (Diary excerpt, Participant 9)

To "have a vision not so different from ours" is a good summary of the attitude the panellists had towards the specialists. They enquired when they felt they had to, showed their positions and developed a dialogue. That is, they were able to discuss issues on equal terms with the specialists. This success was because of the constant efforts made by the participants to meet the requirements of the organization and the infrastructure as a whole. This work not only encompassed dialogical skills in the preparation stage but also continued through the public phase of the conference (and even in the days between the two instances), during which they were asked to perform practical material tasks:

> Several hours have been devoted to preparing the presentation. Besides preparing the PowerPoint, I have devoted time of my life to prepare the text, indispensable for that. Besides these tasks, I have attended other commitments. These have been crazy days due to Laura's emails (a member of the research group) because her suggestions made me change my writing … words, phrases, size of text, and so on. It was something positive, thanks to her tips, work has been pretty good. (Diary excerpt, Participant 7)

The described actions give an account of the participant's work to prove her commitment and determination to complete the required tasks. This situation puts in evidence an affected older person who responds as such. As we have shown, dialogical skills are an indispensable component of involvement as an active member of the citizen panel. Nevertheless, a wide range of other requirements had to be met to demonstrate that the elderly can be considered legitimate citizens. There are material requirements,

such as the ability to produce a PowerPoint presentation or to write a coherent speech, but the competence to deal with stressful situations is necessary as well. Those components give form to a particular way of becoming an older citizen in this configuration.

Nevertheless, becoming a legitimate citizen is not only related to individuals' capacity to overcome certain requirements or to move beyond themselves. As argued previously, a complex infrastructure has to be put in place and sustained to endure this achievement. For this aim, it is not enough to design the network *a priori*. Meticulous caring practices are needed to hold the assemblages in a constant process of infrastructuring. Those are the practices that we will present in the next section.

4.3 Caring about becoming as a mode of infrastructuring

The actions described so far have given an account of the participants' particular efforts to cope with the mechanism's demands. As seen, the constant challenges posed by the organization affected the participant's bodies from the beginning. Nevertheless, we have also seen how the organizing team was present to support and sustain the possibility of achieving the demands. In that vein, anxiety became more evident when the public stage of the conference was about to start. That is why affective support - as well as a multitude of other activities connected to taking care of the participants - emerged as a key component of the sustainment of the whole infrastructure, which was as important as anything else. The next excerpt exemplifies the nature of this additional support:

> Today, I do not know if by insecurity or jitters, or to know how to situate myself in the place where the conference will be carried out, or by the onset of all my concerns ... the fact is that at 8:30 AM, I was already at the CCCB where the young students were getting everything ready. I could test my presentation on the laptop with Laura. I could see if it looked good on the screen, and so on. This has helped me to relax a little bit and to wait more peacefully for my intervention. (Diary excerpt, Participant 7)

The lack of development on this issue through the literature is - at least - surprising. Within the consensus conference manual, for example, the authors talk about issues such as providing a comfortable venue, but the concerns about participants' care are reduced to comfort. However, a whole range of other care practices should be highlighted. For example, breakfast is one of the spaces intended for nutrition within such care but is also a point of socialization during which researchers and participants interact,

transferring affections that are more than necessary to achieve the comfort of these bodies.

> Breakfast also lets us meet students who give us so much support. They want to be hidden, but they also have an active role. I must say they are very friendly. (Diary excerpt, Participant 3)

Likewise, it is essential to equip these bodies with the basics like food, water, shelter, and accommodation, but the care practices need to go further than that. In that sense, the existence of the citizen panel depends, among other elements, on how the facilitation work is developed. To sustain the panel, it is necessary to undertake articulation work that enables 13 people to become a collective:

> The collaborators have made efforts to ensure logistical processes work and to assist everybody. Particularly, I found very interesting the performance of the facilitator. She has allowed people without common interests, in a short time, to be able to debate issues and to arrive to definitions and conclusions. (Diary excerpt, Participant 3)

The preparation stage was a key component of the achievement of this aim, not as a simple activity of knowledge transfer in a unidirectional mode but rather as careful work to produce changes in such a composition, going from the sum of individuals to the citizen panel as a whole. In that respect, the duties of the organizing team extended beyond just transmitting a repertoire of conceptual and informational tools to the participants. As a participant expressed on the fourth day of the preparation stage:

> They gave us a working document discussed in groups of three. Then we were all working together point by point. It seems that this document is the result of the previous three sessions. It is intended to show the experts to explain the points we have recently solved and the session ends to continue in the next, discussing the document. (Diary excerpt, Participant 9)

Documents, prepared by the organization, acted as summaries of other moments (events that have already occurred and reappeared again), giving continuity to the process and highlighting a tendency for repetition. Between one session and another, the bridge that unites them is a document, a mnemonic infrastructure used to record what happened, to give continuity in time and relevance as well as to introduce new elements.

As we have shown, a multiplicity of care practices had to be carried out during the process of infrastructuring our experience. However, the main

purpose of highlighting them is to realize that care is a living technology with vital material implications for human and non-human worlds (Puig de la Bellacasa 2011). Constant attention to detail was required to assure the sustainability of the mechanism, but these care practices concerned humans and the materiality in itself symmetrically. As a result, we can appreciate how taking care of participants means taking care of the political infrastructure and how caring for the political infrastructure involves caring about the participants. That is, they are two sides of the same process: to hold the assemblage (Denis and Pontille 2013).

5. Discussion and Conclusions

When we refer to technology, we usually think of complex machines or ICT, among other things. However, in the examples that we presented, we could see the diversity of technologies, such as documents, tables, projectors or computers, which, due to their everyday use, have become naturalized but overall, we could see their interactions. This wide set of technological relationships were assembled throughout the process to make a peculiar consensus conference possible. The interaction of these components made the emergence and sustainability of a particular kind of subjects attainable: the panellists of this conference as older citizens engaging in technological issues. This brings two crucial aspects to the scene: first, it reinforces the idea that one becomes older in an assemblage (in our case, making a political exercise of these citizens possible) and, second, political practices require certain infrastructures, decentralizing the politics of the primacy of language. Along this path, we faced three instances in which theory was challenged by practice.

The first concerned the very sense of what an infrastructure is. While Star (1999) stressed its relational character, studies on infrastructures have focused on large infrastructures that connect and articulate different communities of practices. What infrastructures a practice, far from being reduced to those large groups such as a bridge (Suchman 2001), a drinking water distribution network (Wakhungu 2019) or a wired network (Wuebben 2017), it can be configured from the interaction of a myriad of things that support the development of a specific practice in a particular situation. The concept of *infrastructuring* contributes to providing this nuance by accommodating the appropriate ductility to deal with certain contextual events, emphasizing the immanent coordinated character of the relationships needed to stabilize and fix collectives and enable them to last (Karasti 2014). The experience that we related taught us about the continuity between what supports our vital practices and the practices that make us

emerge as singular individuals, between the stages and the actors, and also between the tables with microphones and the citizen panels. Infrastructures are nothing more than the continuity of our bodies by other means, a way of doing-with-the-world regularly. While it is true that the stabilization of an infrastructure can be a decisive element for the exclusion of certain subjects from a network (referencing the case where our software could have excluded a participant), it is also true that it is an indispensable element for the connection and sustenance of collectives. However, that connectivity is subject to constant production that involves the set of relationships that make up a particular assembly. Thus, we could think of unstable infrastructures, their instability being precisely what allows them to give consistency to a set, in this case a consensus conference.

Secondly, the theory was challenged by practice regarding how a consensus conference is meant to be carried out. However, from the beginning, interventions were made for its adaptation, and along the way it required several minor, handcrafted adjustments to enable the realization of the participatory mechanism, and its adaptation to those who took part. As a result, even though the mechanism was conceived as a stage for giving voice to older people, in practice it became the production of a new way of conducting politics and ageing. The unexpected emerged in the production of the experience itself. It emerged when met with the diversity of human and non-human groups that were part of the process. Along those unexpected lines, we could see how different actors - human and non-human - interweave, forming the heterogeneous collectives necessary to make the political process possible. Even the adapted arrangement of the space acquired a primary role. In that sense, a whole range of care practices needed to be tailored to both the participants and the materials. Thus, only by paying attention to these practices, whereby twilight entities that reach beyond what is expected are enacted, can we explain the fluidity of the political component and its achievement. In this particular, a citizen panel extended beyond what was established by the manual. The identity of the citizen panel would not have been kept without the participation of the organization. However, the facilitator of the experience or the panel of the experts is indispensable as well. They are also needed to shape and stabilize the citizen panel. If we push the argument to its last consequences regarding our particular target, we will see how the citizen panel represents far more than an aggregate of thirteen people.

Experts, facilitators, and organizers are indispensable components of the assemblage, as crucial as venues, documents, agendas, flip charts or breakfast. If we shift the focus from the subjects to the assemblages (Sayes 2014), we will see actants appear (and disappear), being everywhere and nowhere at the same time; "sometimes [as] a particular node, sometimes

[as] an entire network, (. . .) sometimes absent, sometimes interchangeable" (Mialet 2009, 459).

Lastly, the meaning of what an older person is was challenged. Even though we can establish clear definitions of who can be considered an older person in an abstract plan, from an academic or institutional point of view, this Citizen Conference has shown us that the processes by which age is addressed in a particular situation need to be explored through a contextual approach. That implies recognizing the political, technological or social entities that are taking part in the definition. That is why we suggest the need to switch the very question about who can be considered an older person to how in a certain context a heterogeneous assemblage of (human and non-human) actors defines what an older person is. As presented, singular modes of ageing are updated and activated as a result of an assemblage composed not only of older people but also of academics, young researchers, documents, microphones, lunches, laughter or conversations. We were able to tackle this reconfiguration from the initial assumptions of the organizing team. Which took the biological age of 65 and beyond as a statistical criterion to call for participation. Through the considerations made for two potential participants who were willing to take part in the mechanisms despite being aged under 65 or within an extended variety of logics, such as those configuring active ageing and public engagement with science mechanisms.

In sum, this experience overall supposed a paradigmatic case to apprehend how age is approached in practice since what was constantly at stake was the identification, negotiation and proof of who can be considered a legitimate older citizen. Accordingly, we have pointed out the concept of *infrastructuring* as a pertinent mode to unfold the layers by which theories of ageing are configured in practice, highlighting the coordinated effort among different agents needed to stabilize a specific assemblage.

References

Baars, J. (1991) *The Challenge of Critical Gerontology: The Problem of Social Constitution*, in "Journal of Aging Studies", 5(3), pp. 219-243.

Burholt, V., Winter, B., Aartsen, M., Constantinou, C., Dahlberg, L., Feliciano, V. and Waldegrave, C. (2020) *A Critical Review and Development of a Conceptual Model of Exclusion from Social Relations for Older People*, in "European Journal of Ageing", 17(1), pp. 3-19.

Cagnin, C., Amanatidou, E. and Keenan, M. (2012) *Orienting European Innovation Systems towards Grand Challenges and the Roles that FTA Can Play*, in "Science and Public Policy", 39(2), pp. 140-152.

Callén, B., Domènech, M., López, D. and Tirado, F. (2009) *Telecare Research:*

(Cosmo) Politicizing Methodology, in "Alter", 3(2), pp. 110-122.

Carney, G.M. (2010) *Citizenship and Structured Dependency: the Implications of Policy Design for Senior Political Power*, in "Ageing & Society", 30(2), pp. 229-251.

Citizen Conference of Barcelona's Older People about Digitalization of Society (2013) *Final document of political recommendations*, in https://pagines.uab.cat/conferenciaciutadana/content/document-final (retrieved 29 July, 2020).

Cohen, J. (1999) *Reflections on Habermas on Democracy*, in "Ratio Juridis", 12(4), pp. 385-416.

Dannefer, D. and Daub, A. (2009) *Extending the Interrogation: Life Span, Life Course, and the Constitution of Human Aging*, in "Advances in Life Course Research", 14(1-2), pp. 15-27.

De Smedt, P., Borch, K. and Fuller, T. (2013) *Future Scenarios to Inspire Innovation*, in "Technological Forecasting and Social Change", 80(3), pp. 432-443.

De Vries, G. (2007) *What Is Political in Sub-Politics? How Aristotle Might Help STS*, in "Social Studies of Science", 37(5), pp. 781-809.

Denis, J. and Pontille, D. (2013) *Material Ordering and the Care of Things*, in "Science and Technology & Human Values", 40(3), pp. 338-367.

Dewey, J. (1939) *Introduction,* in E.V. Cowdry (ed.), *Problems of Ageing: Biological and Medical Aspects,* Baltimore, Williams and Wilkins.

Einsiedel, E.F. and Eastlick, D.L. (2000) *Consensus Conferences as Deliberative Democracy: A Communications Perspective*, in "Science Communication", 21(4), pp. 323-343.

Endter, C. (2016) *Skripting Age - The Negotiation Of Age And Aging In Ambient Assisted Living*, in E. Domínguez-Rué and L. Nierling (eds.), *Ageing and Technology: Perspectives from the Social Sciences*, Bielefeld, Transcript, pp. 121-140.

Everingham, J.A., Petriwskyj, A., Warburton, J., Cuthill, M. and Bartlett, H. (2009) *Information Provision for an Age-Friendly Community*, in "Ageing International", 34(1-2), pp. 79-98.

Ferguson, J. (2012) *Structures of Responsibility*, in "Ethnography", 13(4), pp. 558-562.

Fixdal, J. (1997) *Consensus Conferences as "Extended Peer Groups"*, in "Science and Public Policy", 24(6), pp. 366-376.

Gorman, M. (1999) *Development and the Rights of Older People*, in J. Randel, T. German and D. Ewing (eds.), *The Ageing and Development Report: Poverty, Independence and The World's Older People*, London, Earthscan Publications Ltd., pp. 3-21.

Graham, S. and Thrift, N (2007) *Out of Order: Understanding Repair and Maintenance*, in "Theory, Culture & Society", 24(3), pp. 1-25.

Grundahl, J. (1995) *The Danish Consensus Conference Model*, in S. Joss and J. Durant (eds.), *Public Participation in Science: The Role of Consensus Conferences in Europe*, London, NMSI Trading Ltd, pp. 31-40.

Irwin, A., Jensen, T.E. and Jones, K.E. (2013) *The Good, the Bad and the Perfect: Criticizing Engagement Practice*, in "Social Studies of Science", 43(1), pp.118-135.

Jacelon, C.S. and Imperio, K. (2005) *Participant Diaries as a Source of Data in Research with Older Adults*, in "Qualitative Health Research", 15(7), pp. 991-997.

Jensen, C.B. (2005) *Citizen Projects and Consensus-Building at the Danish Board of Technology: On Experiments in Democracy*, in "Acta Sociologica", 48(3), pp. 221-235.

Karasti, H. and Baker, K.S. (2004) *Infrastructuring for the long-term: Ecological information management*, in "Proceedings of the 37th Annual Hawaii International Conference on System Sciences", pp. 1-10.

Karasti, H. and Syrjänen, A.L. (2004) *Artful infrastructuring in two cases of community PD*, in "Proceedings of the eighth conference on Participatory design: Artful integration: interweaving media, materials and practices", 1, pp. 20-30.

Karasti, H. (2014) *Infrastructuring in participatory design*, in "Proceedings of the 13th Participatory Design Conference: Research Papers", 1, pp. 141-150.

Kleinman, D.L. (ed.) (2000) *Science, Technology, and Democracy*, New York, SUNY Press.

Kleinman, D.L., Delborne, J.A. and Anderson, A.A. (2011) *Engaging Citizens: The High Cost of Citizen Participation in High Technology*, in "Public Understanding of Science", 20(2), pp. 221-240.

Laurent, B. (2009) *Replicating participatory devices: the consensus conference confronts nanotechnology*, in "Papiers de Recherche du CSI", 18.

Le Dantec, C.A. and DiSalvo, C. (2013) *Infrastructuring and the Formation of Publics in Participatory Design*, in "Social Studies of Science", 43(2), pp. 241-264.

Lévy, P. (1998) *Becoming Virtual: Reality in the Digital Age*, New York, Plenum Trade.

Marcus, G.E. (1995) *Ethnography In/Of the World System: The Emergence of Multi-Sited Ethnography*, in "Annual Review of Anthropology", 24(1), pp. 95-117.

Marres, N. (2011) *The Costs of Public Involvement: Everyday Devices of Carbon Accounting and the Materialization of Participation*, in "Economy and Society", 40(4), pp. 510-533.

Marres, N. and Lezaun, J. (2011) *Materials and Devices of the Public: An Introduction*, in "Economy and Society", 40(4), pp. 489-509.

Marshall, B.L. and Katz, S. (2002) *Forever Functional: Sexual Fitness and the Ageing Male Body*, in "Body & Society", 8(4), pp. 43-70.

Marston, H.R. and van Hoof, J. (2019) *"Who doesn't think about technology when designing urban environments for older people?" A Case Study Approach to a Proposed Extension of the WHO's Age-Friendly Cities Model*, in "International Journal of Environmental Research and Public Health", 16, 3525, pp. 1-35.

Mialet, H. (2009) *Reincarnating the Knowing Subject: Scientific Rationality and the Situated Body*, in "Qui Parle: Critical Humanities and Social Sciences", 18(1), pp. 53-73.

Michael, M. (1996) *Constructing Identities: The Social, the Non-human and Change*, London, Sage.

Mol, A. (2002) *The Body Multiple: Ontology in Medical Practice*, Durham, NC, Duke University Press.

Mort, M., Finch, T. and May, C. (2009). *Making and Unmaking Telepatients: Identity and Governance in New Health Technologies*, in "Science, Technology, & Human Values", 34(1), pp. 9-33.

Mort, M., Roberts, C. and Callen, B. (2012) *Ageing with Telecare: Care or Coercion in Austerity?*, in "Sociology of Health and Illness", 35(6), pp. 799-812.

Mort, M., Roberts, C., Pols, J., Domenech, M. and Moser, I. (2013) *Ethical Implications of Home Telecare for Older People: A Framework Derived from a Multisited Participative Study*, in "Health Expectations", 18(3), pp. 438-449.

Nielsen, A.P., Hansen, J., Skorupinski, B., Ingensiep, H.W., Baranzke, H., Lassen, J. and Sandoe, P. (2006) *Consensus Conference Manual*, The Hague, LEI.

Peine, A., Faulkner, A., Jæger, B. and Moors, E. (2015) *Science, Technology and the "Grand Challenge" of Ageing. Understanding the Socio-material Constitution of Later Lif*e, in "Technological Forecasting and Social Change", 93, pp. 1-9.

Petts, J. and Niemeyer, S. (2004) *Health Risk Communication and Amplification: Learning from the MMR Vaccination Controversy*, in "Health, Risk & Society", 6(1), pp. 7-23.

Phillips, F.Y. (2011) *The State of Technological and Social Change: Impressions*, in "Technological Forecasting and Social Change", 78(6), pp. 1072-1078.

Powell, M. and Kleinman, D.L. (2008) *Building Citizen Capacities for Participation in Nanotechnology Decision-Making: The Democratic Virtues of the Consensus Conference Model*, in "Public Understanding of Science", 17(3), pp. 329-348.

Puig De la Bellacasa, M. (2011) *Matters of Care in Technoscience: Assembling Neglected Things*, in "Social Studies of Science", 41(1), pp. 85-106.

Ranzijn, R., Harford, J. and Andrews, G. (2002) *Ageing and the Economy: Costs and Benefits*, in "Australasian Journal on Ageing", 21(3), pp. 145-151.

Roberts, C. and Mort, M. (2009) *Reshaping What Counts as Care: Older People, Work and New Technologies*, in "ALTER European Society for Disability Research", 3(2), pp. 138-158.

Sayes, E. (2014) *Actor-network Theory and Methodology: Just What Does It Mean to Say that Nonhumans Have Agency?*, in "Social Studies of Science", 44 (1), pp. 134-149.

Schuitmaker, T.J. (2012) *Identifying and Unravelling Persistent Problems*, in "Technological Forecasting and Social Change", 79(6), pp. 1021-1031.

Sixsmith, A. and Gutman, G. (eds.) (2013) *Technologies for Active Aging*, New York, Springer.

Star, S.L. (1999) *The Ethnography of Infrastructure*, in "American Behavioral Scientist", 43(3), pp. 377-391.

Star, S.L. and Bowker, G.C. (2002) *How to Infrastructure*, in *The Handbook of New Media*, Los Angeles, CA, Lievrouw & SL Livingstone.

Star, S.L. and Ruhleder, K. (1996) *Steps toward an ecology of infrastructure: design and access for large information spaces*, in "Information Systems Research", 7(1), pp. 111-134.

Stengers, I. (2005) *The Cosmopolitical Proposal*, in B. Latour and P. Weibel (eds.), *Making Things Public*, Cambridge, MIT Press, pp. 994-1003.

Suchman, L. (2001) *Building Bridges: Practice-based Ethnographies of Contemporary Technology*, in M.B. Schiffer (ed.), *Anthropological Perspectives on Technology*, Albuquerque, NM, UNM Press, pp. 163-177.

Urban, M. (2017) *"This really takes it out of you!" The Senses and Emotions in Digital Health Practices of the Elderly*, in "Digital Health", 3.

Wakhungu, M. J. (2019) *An Ethnography of Policy: Water Reuse Policy in Kenya*, in "Water Policy", 21(2), pp. 436-448.

Wanka, A. and Gallistl, V. (2018) *Doing Age in a Digitized World - A Material Praxeology of Aging with Technology*, in "Frontiers in Sociology", 3, 6.

Wuebben, D. (2017) *From Wire Evil to Power Line Poetics: The Ethics and Aesthetics of Renewable Transmission*, in "Energy research & social science", 30, pp. 53-60.