CHAPTER 12

Acknowledging the Idiot in the Smart City: Experimentation and Citizenship in the Making of a Low-Carbon District in Santiago de Chile

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Abstract

In recent years, an experimental and participatory grammar has been added to smart city projects around the world but it is still unclear how these notions are being translated and operationalised in practice. In this chapter, we examine the case of 'Shared Streets for a Low-Carbon District', an urban experiment that sought to reduce carbon emissions and promote more sustainable habits in a neighbourhood of Santiago de Chile through urban tactics and participatory sensing. We problematise the emerging nature of this experiment by examining its actual capacities to influence political decisions and configure certain forms of participation and publics. We show that despite the strategies deployed by those responsible for the project to turn the corporate concept of smart city to a more citizen-driven version, in practice a type of ecological awareness and participation was previously installed, while others unexpected situations were made invisible. Based on recent works on the conceptual character of the idiot, we characterise these situations of recalcitrance and

overflown as 'idiotic' manifestations and argue that it is necessary to acknowledge them as

sites of re-composition to make truly experimental interventions in smart city initiatives.

Introduction: 'Live the experiment of a new city'

Figure 1 José Miguel De La Barra Street, September 4, 2016 (Source: courtesy of Rodrigo

Fortuny).

Figure 1 illustrates the citizen intervention 'Shared Streets for a Low-Carbon District,' which

was implemented by the NGO Ciudad Emergente (Emergent City, or CE) for three days in

September 2016 in the Lastarria neighbourhood of Santiago de Chile. In response to claims

that the main sources of urban pollution come from motorized transportation, the purpose

of the intervention was to 'measure and promote residents' willingness to change their

habits regarding urban mobility in response to climate change through the use of Shared

Streets' (CE 2016).[1] Using the slogan 'Live the experiment of a new city,' the project sought

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[1] This and all of the other quotations from Spanish-language sources have been translated by the authors.

to encourage citizen participation through face-to-face encounters and more sustainable modes of mobility such as walking and cycling. When reporting the results of the experiment, CE stated that the experience 'proved to be an effective strategy for generating low-carbon districts. Thanks to the installation of four CO_2 concentration measurement sensors, it is possible to conclude that the Shared Streets experiment reduced CO_2 levels in the neighbourhood' (CE 2016: 118).

The goal of this chapter is to examine the political capacities of this experiment in the promotion of more smart and sustainable cities. By describing the contingencies and controversies that emerged as a result of the efforts to laboratorise the urban space towards low-carbon habits, this chapter contributes to the discussion of how 'smart citizen' projects are translated and operationalized in specific contexts such as Santiago de Chile. We analyse how the use of ideas of citizen participation and urban laboratories – which are being increasingly included in smart city strategies around the world (Halpern *et al.* 2014, Evans *et al.* 2016) – constitute true socio-material devices for justifying and legitimating institutional interests while limiting other interpretations of the notions of experimentation and smartness.

Specifically, we show that despite the efforts deployed by those responsible for the project to turn the corporate concept of the smart city to a more citizen-driven perspective through urban tactics and participatory sensing, in practice a type of public with an ecological awareness (Marres 2012, Dantec and DiSalvo 2013, Yaneva 2017) was favoured while other publics were made invisible. Drawing on recent works on the conceptual character of the

idiot (Stengers 2005, Horst and Michael 2011, Michael 2012a, 2012b, Gabrys 2016), we argue that the urban intervention did not appreciate what might be called 'idiotic manifestations', those moments of misbehaving, recalcitrance and indifference that emerged during the experiment. This purification of the urban intervention denied the realisation of a truly experimental exercise in which the idiotic manifestations could be considered as sites of (re)composition. The idiot, developed by Stengers (2005), does not pretend to achieve evidence. Instead, it seeks to slow down and provoke thought about what we are taking for granted. In this sense, as we will see with the case, the experimental processes should not just serve to demonstrate or validate previously defined objectives, but should also provide moments of opening and exploring the unknown (what is not yet completely defined), making visible and tangible what is emergent in urban life.

The ethnographic study of the case included observations in the preparation phase of the urban intervention, visiting the homes of residents where environmental sensors were installed, and witnessing the implementation phase over the course of the three days of experimentation. Observations were also conducted in a subsequent public seminar in which CE presented the main impacts of the experiment. Furthermore, eight in-depth interviews were conducted during and after the experiment with relevant actors from CE as well as organizations that collaborated with the project including the Municipality of Santiago and Fab Lab Santiago.

Grammars of experimentation and citizen participation in the smart city

Different notions of 'smartness' are unfolding in various urban ecologies around the world (Marvin *et al.* 2016) and have recently permeated Latin American cities including Santiago

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de Chile (Tironi and Valderrama 2017). The 'smart' paradigm has become a requirement in recent years as various actors (NGOs, companies, the government, and so on) pursue strategies to operationalise Smart City projects.[2] To complement the narrative, political, and technological aspects behind smart cities (Vanolo 2013, Kitchin 2014, Söderström *et al.* 2014, March and Ribera-Fumaz 2016, Marvin *et al.* 2016), in this chapter we highlight two closely linked concepts, namely the 'experimental' and 'citizen' grammars that are increasingly infused into smart city programmes and their implications in cities of the Global South.

The city as a laboratory

As several authors have shown (Halpern *et al.* 2014, Luque-Ayala and Marvin 2015, Tironi and Sánchez Criado 2015), the discourses of smart urbanism address both present needs and expectations of a more efficient, less polluted and more participatory urban future, using experimentation and testing as a protocol for the construction of that future. It is no coincidence that the majority of stakeholders who are involved in the emerging context of smart cities use grammar associated with experimental logic and phrases such as 'urban laboratory,' 'living lab,' 'pilot projects,' 'open innovation,' and so on. As Marres says, "the role of technology testing in society has radically expanded over the last years, assuming a prominent role in the public communication of innovation, and as part of strategies for promoting 'societal acceptance' of technology" (Marres, 2018: 17).

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[2] One example of this is that Santiago currently has a Smart City Regional Program financed by the Economic Development Corporation (CORFO) for the development of pilot projects and technological solutions in the priority areas of urban mobility, the environment and security (SE Santiago 2017).

The strategy of producing knowledge based on controlled conditions such as those found in a scientific laboratory is a matter that Science and Technology Studies has addressed broadly, analysing different modes of exteriorization of the 'laboratory' (Pinch 1993, Muniesa and Callon 2007, Callon *et al.* 2009, Marres 2012, Laurent and Tironi 2015, Laurent, 2017). This literature has shown that experimentation allows for both the testing and enactment of realities. For example, Bruno Latour (1983) describes how the experiments that Pasteur developed in laboratories equipped with different instruments allowed certain facts to become solid and scalable to the rest of society. Certain entities or issues can only come into existence through experimental practices, which means that particular settings and instruments play an ontological role in how these entities are defined or represented (Latour 1983).

Increasingly, smart city initiatives have developed different modes of laboratorization to test new technological solutions and social innovations (Marres 2012, Evans and Karvonen 2014, Halpern *et al.* 2014, Evans *et al.* 2016; Marres, 2018). Through this grammar of experimentation, new modes of knowledge production and urban governance are orchestrated by hybrid alliances through testing 'in the real world' (Evans and Karvonen 2014). But even though urban laboratories seem to be an attractive model, authors such as Evans and Karvonen (2014) warn that this can result in the strengthening of some traditional actors and the solidifying of their agendas in shaping the city.

Within this growing laboratorisation of cities, it is relevant to underscore the role of materiality in experiments. Issues such as climate change or the need for more sustainable habits or topics related to the concept of a 'shared city' do not exist in an exclusively

discursive realm. On the contrary, many authors have emphasised the relevant capacity of material devices, settings and environments that allow certain issues and publics to come together (Lezaun and Soneryd 2007, Marres and Lezaun 2011, Marres 2012; Dantec and DiSalvo 2013, Laurent and Tironi 2015, Gabrys 2016). For example, Marres (2012) analyses how everyday carbon accounting devices in sustainable living experiments not only update a relationship between ecological crisis and domestic practices but also constitute a re-articulation of public participation and the role of experts in environmental issues. From this perspective, participation is always a fragile and contingent achievement of socio-technical entanglements which are made to exist among multiple devices (websites, sensors, social network sites, road markings, etc.).[3] This invites us to examine the powers of engagement of material devices and urban settings in the creation or materialisation of certain publics rather than others (Marres and Lezaun 2011, Marres 2012).

From the corporate smart city to the smart citizen

Along with this grammar of experimentation, over the past few years a 'participatory,' 'citizen' or 'bottom-up' component has been added to smart city interventions. However, it is still unclear how this 'citizen' dimension can be incorporated into smart city projects and which versions of citizenship or smartness are enacted when invoking the figure of the 'smart citizen' (Tironi and Valderrama 2017).

In this debate, various authors have noted that a corporate vision has predominated in smart city initiatives, using apps, sensors and algorithms to provide more automated forms

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[3] The project of rethinking the formation of publics from an object-oriented democracy (Latour 2005) involves overcoming a concept in which materiality (and other entities) are considered as mere support for or accessory of the political.

of management and to assist multiple stakeholders (municipalities, companies, citizens and so on) in making decisions driven by data (Harrison and Abbott 2011, Kitchin 2014). This corporate vision of the smart city is criticized because it reduces urban smartness to 'meaning nearly any innovation based on technology for the planning, development and operation of cities' (Harrison and Abbott 2011: 2-3). Thus, a criticism emerges around the excessively normative and technologically oriented drive of smart city initiatives to promote a technocratic model of urban government with a pronounced dependency on private tech companies (Hollands 2008, Kitchin 2014, Morozov 2014, Vanolo 2014, March and Ribera-Fumaz 2016).

Parallel to these critiques, various rankings of smart cities have emerged based on calculations of urban components and indicators that go beyond the limited definition of smartness as digital technologies in urban space (Cohen 2014, Giffinger *et al.* 2007, Giffinger and Gudrun 2010, Caragliu *et al.* 2011). While smart city projects used to focus on the 'triple helix' of governments, academy and industry, through this quantification of the smartness of cities, the role of citizen participation has now become highly valued as an indicator of the intelligence of a city.

Using this participatory grammar, some authors speak of a new Smart Cities 3.0 generation (Cohen 2015) that is no longer guided by the technology sector or urban governments, but by the citizens themselves through experimental interventions of co-creation and prototyping inspired by tactical urbanism, prototype urbanism, peer-to-peer and do-it-yourself culture (de Lange and de Waal 2013, Corsín Jiménez 2014, Finn 2014, Forlano and Mathew 2014, Ratto and Boler 2014; Tironi, 2016). The objective of all of these actions is to

empower the citizen and place him or her at the centre of the design and making of cities, substituting the prominence of technology corporations, and even bypassing traditional institutions (de Lange and de Waal 2013, Forlano and Mathew 2014).

Laboratorizing the streets of Santiago

To empirically describe the use of experimental and citizen grammars in the unfolding of smart cities projects in Chile and to examine the extent to which these initiatives truly challenge the corporate logics and interests of local governments, we review the case of 'Shared Streets for a Low-Carbon District' that was conducted by the NGO Ciudad Emergente (CE). The organization is described as a 'Laboratory for Citizen Urbanism Tactics and Tools' that conducts multiple experimental interventions or 'tactical actions' that seek to promote changes in habits, to enhance citizen participation and to build capacity and relationships between public officials and civil society. The co-founder and Executive Director of CE stated that these actions are based on tactical urbanism and are 'light, quick, cheap and involve people in the construction or improvement of a public space.' One of the suppositions of CE is that the urban fabric includes 'emergent' forms of community building that are commonly invisible to the bureaucratic planning gaze. The organization's objective is thus to activate and strengthen these emerging communities through 'citizen activation tactics' and 'social intercommunication 2.0' tools. These principles have inspired the development of the 'Shared Streets' intervention.

The organization of the experiment was hybrid, drawing on financial support from the UK Foreign and Commonwealth Office through its 'Smart Cities/Infrastructure' and 'Climate Change and Low-Carbon Transition' programmes, and the transfer of knowledge from three

UK agencies: the consulting firm ARUP, the Eden Project (experts on the development of 'community' lunches) and the London School of Economics Cities Program. This strong connection between the project and UK agencies provided early legitimation in Chile. At the local level, the intervention received the support of the Smart Cities Unit of the Ministry of Transportation, the Ministry of the Environment, Fab Lab Santiago, and the Municipality of Santiago. The latter played a key role in the decision regarding the location of the intervention because it had already committed to creating a bike lane in the neighbourhood. In this sense, the Shared Streets project would be a good experiment for *demonstrating* the demand for cycling infrastructure and evaluating the willingness of citizens to adopt more ecological habits. The Director of the Smart Cities Unit of the Ministry of Transportation also found the experiment important to illustrate 'that a smart city is not only the implementation of technology within the city but also involves how this technology is accepted by the community, the people, those who inhabit it.'

The main objective of the intervention was to promote the idea of a city where the streets are shared between cars and other types of non-motorized transport (cycling and walking) and thus reduce CO_2 emissions as well as combat climate change through new attitudes and sustainable habits. To achieve that goal, it was necessary to evoke an emerging 'ecological' awareness through practices, interventions and prototypes to co-create low-carbon neighbourhoods. The challenge was to generate a material, emotional and cognitive setting that would be produce this awareness.

Citizen tactics: assembling audiences to transform habits

The first urban tactic was initiated on the evening of Thursday, 1 September 2016, when a group of 30 volunteers painted a set of blue calypso circles on José Miguel De La Barra Street for nearly seven hours. The circles were meant to combine the six car lanes and sidewalk as a large shared public space rather than fragmented terrains dedicated to each type of mobility, leaving just two lanes for cars and reducing the speed limit to 10 kilometers per hour.

Experimental bike lanes and car stubbornness

Along with this redistribution of space, a temporary bike lane was established in the area to connect existing bike lanes. The bike lane was open from 7 a.m. to 7 p.m. during the three days of the intervention and was created using municipal signage that legitimised the temporary change. In addition, CE installed vinyl orange cones while volunteers acted as 'human traffic lights' to delineate the bike lane. This tactic was one of the important symbols of the experiment because it embodied infrastructure associated with an 'ecological' practice (cycling) and increased the visibility of its use, creating a demonstration that the authorities had not anticipated.

However, starting on the first day, the efforts to transform this section of the city into a laboratory encountered a range of stubborn and 'idiotic' manifestations. The intervention created traffic congestion and produced unpleasant conditions for some residents. Many drivers were unhappy with or indifferent to the goals of the intervention and constantly honked their horns to show their disapproval of the experiment. Heated discussions occasionally took place between pedestrians and drivers. The edges of the experiment were progressively challenged by elements that had not originally been taken into account, such

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as the obstinate practices of certain drivers. As such, during rush hour (between 6 p.m. and 7 p.m.), the experimental bike lane was removed by order of the municipality. While the bike lane was reopened in a more amenable way over the next two days – particularly during the mornings – there was always a feeling of tension and chaos. As such, the infiltration of 'external' elements (in this case, the drivers' displeasure) exceeded the control and demarcation imposed by the organizers and revealed sensitivities that were less than 'compatible' with the idea of shared streets.

"Changing the city in 5 minutes"

Another tactic developed by CE involved calling on different publics to take part in a *malón urbano* ('urban raid'). Based on earlier experiences in the UK and older traditions in Chile,[4] the purpose of this activity was to activate the participation of neighbourhood residents by inviting them to a shared meal where they would discuss urban problems. The organisations affiliated with the intervention (artists, cycling organizations, neighbourhood groups and so on) held a *malón urbano* on Sunday evening, the last day of the experiment. A special area was designated in the street for long tables and chairs where residents and passers-by could sit and participate in open conversations, accompanied by live band performances and a line of temporary stores selling t-shirts, caps, accessories and bicycle repair services.

It is important to note that the topics discussed at the tables and their dynamics were not always the result of participant spontaneity and effervescence. Like a focus group, each table had CE coordinators that encouraged discussion and commitments to issues related to climate change and sustainable habits. While specific or preset roles were not assigned to the participants, during our observation we noted the presence of certain implicit

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[4] CE even proposed a ten-step guide to holding a raid in keeping with the DIY spirit.

understandings of how things should be as well as a particular interpretation of 'community' that embodied preferable values and habits. Far from providing an opportunity to identify disagreements or differences regarding the type of city that one wants, the encounters in the *malón* took place in a context of consensus that was devoid of dissent and controversy.

This public atmosphere of deliberation and commitment to environmental issues coexisted with the incessant honking of angry motorists as well as the perception that the experiment was an 'invasion' by elites and hipsters who were disconnected from the lived experience of the neighbourhood. Furthermore, given the neighbourhood's proximity to the city's tourist attractions, the development of the *malón* seemed to be more attractive to tourists and passers-by than to residents. In the discussions generated during the intervention and on the Facebook page of the event, several people stated that they were uncomfortable with the aims of the experiment and did not understand the purpose of 'paralysing a neighbourhood'. Some criticized the utopian and unrealistic character of the experience and the idea that CE would want to 'change the city in 5 minutes,' showing that they were sceptical of these 'ludic' and 'rapid' modes of promoting new urban habits. Others even criticized the colour of the circles painted on the street because they thought it made the neighbourhood less attractive. One Facebook user stated that the idea of sharing the street seemed 'downright stupid,' which led to the following response from CE:

> Just as people thought that women's suffrage was seen as stupid 100 years ago and
> is now common sense, we want to promote a city with a common sense that
> involves streets that allow for slow vehicular passage and pedestrian flow. I hope
> you don't take 100 years to realize this.

Citizen data: encouraging involvement and measuring to demonstrate

Parallel to the urban tactics, CE deployed a series of participatory sensing tools to evaluate the 'impacts' of the experiment. The measurements would serve to show the positive aspects of sharing the street and adopting more sustainable forms of mobility as well as deriving lessons for future public policies. The objective was to gather two types of data: social and environmental. The measurement of social data focused on the willingness of the public to adopt more sustainable habits and was collected using various instruments. First, 'idea trees' were installed in four locations to visually collect (by hanging slips of paper on a structure) thoughts and concerns about what Santiago should be like and perceptions about the event. Second, CE conducted a resident survey prior to the intervention to gather information about climate change issues, transportation habits and social cohesion. The same survey was conducted after the intervention to assess whether the experiment generated any changes in the district. Third, a group of 16 social science students conducted participant observation at the *malón* and documented the conversations at the tables.

In regard to the environmental data, a series of sensors were installed to gather data to *demonstrate* the impacts of the experiment on bicycle use and reduction of air pollution in the district. These sensors would be the smart city component of experimentation, as one CE representative told us. Equipment was placed in two sections of the bike lane to measure the flow of cyclists during the intervention. And in the spirit of open-source technologies and social innovations that emerged from other urban laboratories, the Smart Citizen Kit (SCK) environmental sensor was distributed to some residents in the experimentation area

to measure variables such as temperature, humidity, light intensity, noise levels, nitrogen

and CO_2.

The SCK[5] is a low-cost hardware device created by Fab Lab Barcelona to democratize

environmental monitoring and empower people to produce their own cities (Diez and

Posada 2013). One of the qualities of the device highlighted by its creators is that it does not

operate as a 'black box' but as an 'open box' that is compatible with non-experts and free

experimentation. Both the technology and principles that formed the basis of SCK were

imported by Fab Lab Santiago in Chile, a digital manufacturing and open innovation

laboratory that experiments with these sensor technologies. Fab Lab Santiago was then

invited by CE to contribute to the Shared Streets experiment by installing and maintaining

the SCK. The idea was to invite residents, non-experts and individuals affected by air

pollution to measure a series of parameters and evaluate the impacts on their quality of life,

transforming them into a network of intelligent sensors with their own neighbourhood. One

of the founders of Fab Lab Santiago told us, 'This sensor [SCK] has been very successful

because it was the first technological object linked to the smart city that placed people at

the centre.' As such, the spirit and capacities of this digital device seemed to strongly align

with the purposes of the CE intervention. The SCK offered the possibility of engaging citizens

in environmental issues by being involved in the specific work of gathering data on urban

pollution. As such, SCK devices were distributed to volunteer residents who lived at strategic

points, allowing them to participate in environmental measurements prior to and after the

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[5] The SCK contains various sensors, a data processing board, a battery and a cover. The data are automatically uploaded when it connects to a Wi-Fi signal.

intervention. An engineer (sent by Fab Lab Santiago) later installed and activated the SCK

(**Figure 2**).

Figure 2 Smart Citizen Kit (in the centre) installed in the window of a resident (Source:

Matías Valderrama).

Soon after the devices were installed in the homes, the idea of a non-expert public

committed to ecological issues was quickly challenged by unexpected situations. A CE

representative told us, 'It wasn't difficult to find people who wanted to install the kit. What

has been difficult has been finding people who have the technical conditions to manage the

kit.' Some houses exhibited 'deficiencies' with respect to the SCK requirements, reducing

the SCK's capacities due to issues of height and proximity to the street. There were also

problems with the ways in which residents maintained the SCKs. The residents were willing

to accept the installation of the sensor but this did not prevent them from disconnecting the

sensor if they needed to plug in something else or if the sensor got in the way of another

household activity such as cleaning. The Fab Lab engineer responsible for installing the

devices in the houses told us about a series of difficulties in 'enrolling' people in the

environmental monitoring operations. The sensors often failed because of poor Wi-Fi

connections, disconnection, resident absence and even power outages in some houses. In

addition, the SCK required a Wi-Fi connection with a password with a maximum of 19

characters. Some residents were unhappy when they were asked for the password and

found it invasive or burdensome if they were asked to change it.

Another misalignment occurred approximately one month prior to the project's

implementation. During a meeting with the Ministry of the Environment, CE stated that

while the measurement of CO_2 levels is an important topic for climate change, the air

pollution that affects people daily is actually related to particulate matter (PM 2.5) in the air,

which meant that the Shared Streets project should include measurement of PM 2.5. This

requirement was not expected, and the SCK did not have sensors to measure PM 2.5.

Moreover, it showed the importance of having 'hard data' that would allow the institution

to justify future decisions pertaining to the city. This required CE to install an additional

sensor to measure PM 2.5 to meet the institutional objectives. This also presented problems

because they had not measured PM 2.5 for the two days before the intervention and thus,

there was no baseline for comparison.

This type of practice reveals the emergence of idiotic manifestations of overflow and

breakdown regarding the rules proposed by the experiment, calling into question the type

of involvement expected of citizens with digital sensors. Furthermore, the various idiotic

manifestations in the installation and maintenance of the sensors created noise and errors

in the data and even the failure to obtain data for several hours and days, which later made

it difficult to read and compare the data. For the director of the NGO, the SCK was 'more

rigid than expected' and was an object that was difficult to maintain and integrate within

the household ecosystem.[6]

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[6] Fab Lab reached a different conclusion: many of the problems resulted from the low level of participation in the project objectives. According to the Director, the problem of measurement was not related to SCK, but to the lack of time to promote more prolonged learning and appropriation of the technology.

The smart citizen in the idiotic city

As we have described throughout this chapter, growing experimental and citizen grammars have permeated the narratives of smart city initiatives, and this has reconfigured the notion of smartness 'required' for contemporary cities. The case of the Shared Streets project in Santiago de Chile clearly shows how smart urbanism, which was originally centred on a technological component, is now adopting new forms of social legitimation with more participative and experimental interventions through urban laboratories. However, we have shown how tactics and measurements to activate a more ecological citizenship and demonstrate positive impacts on the environment come up against a series of unexpected situations and moments of overflow, evoking publics and ways of participation that are not necessarily aligned with the ecological agenda.

The prototypes developed by CE certainly had the power to involve and attach (Marres 2012, Dantec and DiSalvo 2013) specific groups, facilitating the discussion of issues associated with sustainability and climate change. This allowed them to make visible a certain ecological awareness and to amplify the citizen potential of smart urbanism. At the same time, the proposed setting involved other publics and practices that were not originally considered in the experiment under heterogeneous modalities. The lack of interest in the project, the direct problematisation of agile and light logics of tactical urbanism, the effort to turn the city into a laboratory in five minutes, the honking of automobile horns and the resulting chaos of the experiment, and the resident neglect of the SCK compel one to slow down and question the citizen and experimental grammar of the intervention.

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It is these undocile and recalcitrant situations of the urban laboratory that we propose to understand as 'idiotic manifestations'. The idiot has commonly been understood pejoratively as someone with little understanding or an egoist who is only interested in their own situation rather than the common good. If we reflect on the Greek origin of the word, the idiot was the person who spoke a semi-private idiom removed from the shared language of the polis, which made his or her murmur incoherent and unintelligible, continually marginalizing him or her from the community (Stengers 2005, Farias and Blok 2016). But in light of the work of authors like Gilles Deleuze and Isabelle Stengers, the idiot has been rediscovered as a useful concept to interrogate what we take for granted and to transform what seems absurd into a more creative or inventive thought (Deleuze and Guattari 1994). The idiot is positioned as someone who does not seek out evidence or productive knowledge. Without having a well-founded reason, the idiot resists truth and consensus simply because he or she feels that 'there is something more important' that goes beyond the way a specific situation is presented or defined (Stengers 2005: 994). This compels one to decrease his or her pace and recognize the uncertainty, partiality and inevitable incommensurability of any definition of things. As such, the idiot always stops us and protects us from "consider ourselves authorized to believe we possess the meaning of what we know" (Stengers 2005: 995)

The idiot offers an opportunity to speculate on how things could be presented differently and how we could experiment with new ways of making cities. The idiot alerts us to the fact that we might be prematurely limiting our vision of things, suggesting that there is always something more (interests, affects, issues, publics) that escapes us and must be rethought.

Recent works have been incorporating the 'murmur of the idiot' (Stengers 2005: 1003) in social research (Horst and Michael 2011, Michael 2012a, 2012b) and more specifically to understand citizen participation in smart cities (Gabrys 2016, Tironi and Valderrama 2017). Instead of closed resolutions, there is an effort to raise questions and generate situations that can build new relationships with our surroundings (Michael 2012a). In other words, the idea is not to reduce urban problems to a problem-solving logic – which is strongly rooted in today's smart culture – and open oneself up to the dynamics of problem-making. The idiot suggests unanticipated directions, rejecting forms of linear thinking that pre-configure solutions prior to understanding the problems that are presented.

In the case presented in this chapter, CE decided to disregard or close off the idiotic manifestations in the dissemination of the experimental results. When those responsible for the intervention were asked about the presence of unhappy drivers and passers-by, they said that they represented a small number compared to those that were in favour of the experience and no mention was made of the idiotic manifestations presented in the data collection in the public presentation of the experiment's impacts. The interesting frictions, interstices and collisions between worlds that the experiment evoked were not considered as a component worthy of consideration, but as a noise that had to be eliminated through the idea of consensus.

This limited willingness of the project to engage with what might be called the 'idiotic city', with their urban practices of recalcitrance and indifference that challenge established protocols and normativity (Savransky 2014), can be explained by the aim of validation that the project implicitly sustained from its inception. One of the objectives of CE was to be able

to produce quantitative social and environmental data that would justify the construction of a bike lane in the neighbourhood and the replicability of the experiment in other places. In other words, there was a need to show the activation of a public that was receptive to the intervention. As a stakeholder from the Municipality of Santiago stated, the data offered by the intervention constitute 'a source of support' for the bike lane construction. The Director of CE also understood the project in this manner:

> They [Municipality of Santiago] are going to invest 150 million pesos in order to install more permanent cycling infrastructure. They said that they are going to do that in advance. So rather than determining whether or not a bike route is good or bad, our prototypes were used to address the generation of the change in habits, and how to raise awareness about an important topic.

As such, rather than acknowledging the 'idiotic' manifestations, the focus was demonstrating the emergence of an 'eco-friendly' audience and an improvement in air quality thanks to the practice of sharing the streets.

The demonstrative will of the intervention does not only lead to a privileging of a certain type of publics but also contributes to the devaluing of others. The disagreements, confrontations and failures of the intervention were not conceived of as opportunities to innovate and rethink the suppositions, but as ills of a pragmatic citizenry that has yet to become ecological. Drivers and their honking and criticisms, for example, were stigmatized and excluded from the ecological spirit, considered as an obstinate and idiotic (in the pejorative sense) force with archaic mentalities who only think about their individual

wellbeing and do not understand the need to aspire to a new shared city. The series of sociotechnical failures that SCK presented in their coexistence with households was interpreted as technical deficits or as a lack of preparation on the part of citizens. It was not considered as an opportunity to rethink the role of digital data and modes of involving citizens.

Conclusions. Unfolding the capacity of urban experiments

The purpose of this chapter has been to idiotically complicate the cosmos convened by urban tactics and participatory sensing that have recently permeated smart cities initiatives. Rather than building on a smart city notion driven by multinational technology companies (Vanolo 2014), the case study shows a notion of smart city informed by 'experimental' and 'citizen' interventions, while lacking the ability to incorporate the differences and frictions that emerge through urban experimentation.

This case opens up important questions about the actual capacities of citizen experiments to influence government decision-making in an innovative way. As has been documented in regard to similar cases (Evans and Karvonen 2014), the Shared Streets intervention seems more interested in using the 'experimental' and 'citizen' grammars to test and legitimate pre-set institutional projects rather than to inform planning processes in the municipality through the generation of knowledge and public debate. While urban experiments have the potential to unfold new situations, entities and political relationships, and to create a space of exploration that is open to the unanticipated, the case study shows a more rhetorical use of the notion of experimentation than an empirical one.

Second, the case leads apparently to a disjunctive regarding the experimental and participatory components of smart citizen projects. An ambivalent relationship was created for CE and Fab Lab Santiago between seeking to obtain 'hard,' 'representative' or 'reliable' social and environmental data to validate the interventions, and the proliferation of breakdowns produced by the engaged citizens during the measurement processes. As the Fab Lab engineer in charge of installing the sensors told us:

> On the one hand, you have this entire trend of the smart city which seeks to empower people by linking with the use of sensors […] But on the other hand, I have realized through this experience in particular that a much more reliable system is one in which there are no users involved.

Rather than adopting a precautionary approach from which the *idiotic-ness* of the city is considered a negative barrier or force of distortion of data to reduce the participatory nature of these interventions, Marres (2015) calls for the affirmation and experimenting with those troubles in inventive ways. The multiple disconnections, indifferences and failures involved in the enactment of this urban intervention can be taken up as sites of true experimentation to generate new ways of engaging drivers and residents beyond the logic of validation.

These two points force us to return to the pragmatist thinking of John Dewey (2012) and the background of the idea of the political as experimentation. Dewey suggests that politics should open itself up to experimentation because the problems and publics concerned with them emerge together through processes of co-formation and problematisation. It is

precisely this strong sense of experimentation as a site permeated by the unexpected and those agencies or 'other questions' left aside (Stengers 2005) that proved to be affected by the bureaucratic-institutional use of experimental grammar. If experimentation implies openness to problematisation (Dewey 2012) in which the identity of the participants and problems are not defined a priori but are instead the result of the testing process itself (Latour 1983), the logic that dominated in the Shared Streets initiative was consensus, excluding the possibility of an urban policy based on disagreements and idiotic manifestations. In this regard, Gabrys (2016) argues that many 'smart citizen' strategies do not manage to become true spaces of participation and instead, result in the validation of conventional experts and institutions. Thus, the question continues to be how these forms of experimental participation can increase the vigour of public participation around the city without becoming merely aesthetic actions to celebrate particular citizen types or even actions that only serve to reinforce the interests of current institutional governments.

We can said that "Shared Streets" project, as many other smart trial in urban space, conceived the idea of experimentation in its enfolding capacity (Dominguez and Foguè, 2017): that is, the capacity for prescribe programs and norms into spaces and people. But, this kind of urban experiments could not only serve to test and legitimate more sustainable and smarter infrastructures and habits, but also they can unfold a re-articulation of social, political and ethical issues (Marres, 2018). In other words, rather of conceiving the smart experiments as "facade" or "fraud", they can be re-considered as spaces for prototyping new forms of political deliberation, where the notions of idioticness and smartness co-emerge in a process of mutual correspondence (Tironi & Valderrama, 2017). The idiotic manifestations that characterize the urban liveliness have to be recognized as part of the

sociomaterial frictions and recalcitrance of the city, from which the assumptions of what we take for granted about smart urbanization and public participation can be re-thought. For example, we can explore how to think about a shared city in presence of publics that are apparently not willing to share it. How can we allow the frictions of the city to *(in)form* new possibilities on the composition of the urban? Finally, which modalities of experimentation allow for the consideration of those imperceptible murmurs of the idiot that tend to be marginalized from the prevailing cannons of smart culture?

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