

LIVING LABS UNDER CONSTRUCTION:
PARADIGMS, PRACTICES, AND PERSPECTIVES
OF PUBLIC SCIENCE COMMUNICATION AND
PARTICIPATORY SCIENCE

Imagineering the city: the living lab mystique and its discontents

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Abstract

In this essay, we posit that the urban living lab is an object, engulfed in a particular kind of ontological mystique. We show how diverse urban initiatives utilize the label of 'lab' strategically, in order to position their practices within the logic of scientific authority and in/exclude different audiences, thus configuring urban participation. The essay links this lab mystique to urban participation by employing the lens of imagineering [van den Berg, 2015], combining imagining and engineering the city in particular participatory configurations. This allows for critical examinations of who is allowed to imagine, experiment and participate in the city through living lab initiatives.

Keywords

Public engagement with science and technology; Social inclusion

DOI

https://doi.org/10.22323/2.22030402

Submitted: 29th November 2022 Accepted: 13th February 2023 Published: 20th June 2023

"Truth may well be the daughter of time, but it is also the son of place." Tom Gieryn, *Truth Spots: How places make people believe*.

Introduction: a place of science and truth?

In his book 'Truth Spots: How places make people believe' [2018] Tom Gieryn argues that places are not just a stage for truth claims, but active participants in truth-making. Gieryn encourages the reader to consider how places and truth are connected by asking the question: "what exactly is it about [this] location — and its materiality, its narrations — that confers credibility" [2018, p. 172] to it. There is no place more famous for its truth-making than the laboratory — a place incurring endless academic interest, particularly in Science and Technology Studies (STS), where the laboratory has been examined and analyzed as secluded place [Callon, Lascoumes & Barthe, 2009], a place for producing generalizations [Kohler, 2002; Shapin & Schaffer, 1985], a place for producing publics and futures [Krzywoszynska et al., 2018] and particular kinds of knowledge [Latour & Woolgar, 1986; Knorr Cetina, 1992, 1995]. The laboratory as knowledge locus has been very influential in epistemological discussions, as STS have sought to "put

different kinds of scientific knowledge into categories, based on the kind of place where it happens" [Henke, 2000, p. 483].

Unlike the classic laboratory, living labs¹ are very different places of truth-making. Located somewhere between a laboratory and the field,² living labs are exceptional places, as they allow for innovation, ideas, and collaboration with partners outside the Ivory towers of Academia. As such, living labs are by definition considered to be democratic and open, and have generally been welcomed as such by eager to innovate cities, as well as within academic discussions. These labs are purported to be able to respond to urban problems by bringing together policy makers, citizens, public service providers and businesses in public-private partnerships, which are locally embedded and aimed at developing knowledge and alternative urban futures [James Evans & Karvonen, 2014; Joshua Evans, 2016]. While scholarly work has been largely focused on presenting typologies of living labs and understanding these knowledge partnerships [Dekker, Franco-Contreras & Meijer, 2017; Steen & van Bueren, 2017], the rapid spread of living labs and their growing numbers in cities call for more attention and deeper understanding of their relevance to urban development and participation.

To this end, this essay presents an argument for focusing attention on living labs as *ontological objects*, in order to better understand how they play a role in urban participation and to what consequences. Based on ethnographically collected data in the city of Rotterdam, the Netherlands, we show here that the lab's³ unclear ontology — which we call 'the living lab mystique' — may be strategically employed by urban initiatives, with particular consequences for urban participation. We therefore call for a different strain of research on living labs, with a focus on myth-making as opposed to (types of) knowledge production.

The living lab as an object of analysis

We base this argument on qualitative data, gathered between January 2018 and December 2019 in the city of Rotterdam. The data was gathered via semi-structured interviews with urban lab initiators (12), key-actors such as public opinion makers and directors of future-building agencies (5), municipal policymakers (3), as well as unstructured interviews (8) with key figures in the same fields, for example during the annual city-makers conference of Rotterdam; at workshops for urban development; network meetings, and public demonstrations. Furthermore, observations of meetings and workshops were conducted. All material was transcribed verbatim, translated from Dutch, analyzed within themes and coded openly. The city of Rotterdam was chosen, because it characterizes and identifies itself as an experimentation site explicitly, for instance with the slogan

¹We use the term 'laboratory' to refer to a controlled environment for the purpose of experimenting, as classically understood. We use the term 'living lab' to refer to the urban projects and initiatives we discuss here and often refer to them simply as labs to avoid repetition and text clunkiness.

²Tom Gieryn has done an excellent analysis of the city as a laboratory, where he examined in detail the differences between laboratory and field as knowledge production sites, as well as the affordances of the city as such a site in historical perspective. See Gieryn [2006] City as Truth-Spots: Laboratories and Field Sites in Urban Studies.

³Throughout this essay we refer to 'the lab'. By this we mean not a particular living lab that we studied, but rather the idea and label of a lab in its entirety. This is helpful in making our case for living labs as a layered place, steeped in mystique. In a sense, this mystique is expressed in the notion of 'the lab'.

"the laboratory of the Netherlands" [Rotterdam Municipality, 2014]. We do not aim at conducting an exhaustive analysis of the cases we present below, but rather to use these as a starting point in critically assessing the nature of labs.⁴

The goal of this essay is to stimulate discussion on the topic of living labs as an ontological object, because we believe that the quickly developing field of studying living and urban labs is disproportionately focused on them as epistemological sites, i.e., the knowledge they produce. While we do not argue that these epistemological issues should not be considered — on the contrary, we believe them to be crucial for understanding knowledge practices and stimulating technological innovation — we call in this text for more attention to living and urban labs as ontological objects, because we believe this is crucial element of analysis for both theory and practice.

In order to make this goal tangible, we offer such an analysis of 11 labs initiatives in the city of Rotterdam, the Netherlands. These initiatives were focused on the following issues: social cohesion (3 labs), urban renewal of public space (2 labs), urban health (2 labs), redevelopment of urban space/wasteland (4 labs). All of these were initiated by entrepreneurial professionals (such as architects, urban designers and developers) who may be local residents or engaged 'city-makers' via their professional roles.

The various initiatives under study call themselves labs, yet their practices and approaches to urban development differ. Based on ethnographically gathered material and abductive analysis [Tavory & Timmermans, 2014], we ask the question what kind of places are these? In answering it, we attempt to go deeper into their motivations and practices. While our complete analysis of these lab initiatives was presented elsewhere [Rahmawan-Huizenga & Ivanova, 2022], we focus in this essay on the place-layers we encountered and unravel these carefully, in order to situate the lab in an ontological analysis. Importantly, these labs are not meant to be representative of urban and living labs elsewhere, but rather aim to provide a blueprint for (re-)considering how the label of 'lab' has consequences for its practices, and in particular for excluding audiences from urban participation. We attend to this question by performing an analytical unravelling that we call demystification.

Demystification

What we call 'demystification' here is a process of unravelling the different layers of the lab as a concept and as a practice. The conceptual and empirical lines in this essay are connected and inform each other, yet we may — for analytical purposes — separate them in an attempt to clarify and expose their mechanisms. Conceptually, we argue that labs should be (re-)considered as more than sites of experimentation and (alternative) knowledge production; indeed, every analysis of these labs should begin by asking what kind of place is it and what does it do? This is because — as we have argued elsewhere [Rahmawan-Huizenga & Ivanova, 2022] — urban and living labs are not one thing, but are rather an assemblage of different

⁴In this essay we discuss 'living and urban labs' without differentiating between them. This is because our analysis is focused on living labs in the city of Rotterdam, therefore all of the data we present is by definition of urban living labs. While in this text the terms are not differentiated, it is important to note that this may be so in other places and that the application of the label urban and/or living lab is in itself a practice, which should be examined and understood.

initiatives, who use and apply the terminology of the lab strategically (and often retroactively), in order to achieve their goals. It is therefore imperative that the label *lab* be interrogated and critically assessed. Empirically, we show that living and urban labs, despite a prevalent discourse of inclusion, are characterized by mechanisms of participatory exclusion, as a result of the mystique surrounding them. Participants of living labs must employ a type of literacy we call "lab literacy" — one must be specifically educated and articulate on the subject of city-making, in order to participate fully and well in these initiatives.

The lab, therefore, presents us with issues of identification (what is it?) and participation (who can be part of it?). We expose these issues by unravelling the layers of place that, together, form what we here refer to as 'lab mystique'. We argue that this process of unravelling is an important and necessary first step in performing any serious analysis of labs, referring to it as 'demystification'. Demystification is a critical assessment of the lab vocabulary and practices (knowledge production in particular field, but also citizen participation, social engineering, just practices), yet it encompasses more than critique; it does the work of *unsettling* [D. Ivanova, 2020; Dara Ivanova, 2020] easy assumptions about what living labs are. Unsettling serves as an opening, an opportunity to consider the lab differently and anew. We suggest that 'demystification' can serve as an inspiration for others to lead discussions on living and urban labs into new and exciting analytical landscapes.

In order to present the process of demystification, we apply it here to our study of 11 living labs in Rotterdam. Firstly, we observed the labs in our study as *places of exception* from rules and bureaucratic processes. As the city of Rotterdam attempts to be "laboratory of the Netherlands", it encourages experimental spaces in the hopes of stimulating urban innovative practices, especially participatory practices. This has not gone unnoticed by urban initiatives, which try to improve the city, but are often bogged down in bureaucratic rules and regulations. The label of 'lab' is therefore applied as a way of "getting things done" without going through the bureaucratic processes of city regulatory governance:

"Yes, then you at least have the freedom to look for a role. This (*the lab*) also ensures unpredictability and therefore innovation, because people do not have to think along in certain common frameworks. You have to ensure that civil servants have the space to take their freedom in the urban lab. Civil servants, the municipality... they are all organized hierarchically. This means that the alderman decides, and you have to implement it and if you don't, you will either be fired, or you will not be promoted. This results in a very strong tendency to stay within the usual framework. [Therefore], we should give the civil servants related to the lab the room to have freedom. So basically saying, okay, we have a financial framework that you can spend and we do have a number of points of interest, but how you exactly do that is up to you, take your freedom".

Interview architect, urban development, April 2018.

The label, thus, creates a place of exception. We observed urban initiatives and city-makers⁵ taking advantage of this by applying the label retroactively. Often this

⁵We should note here that we use the term 'city-maker' cautiously. This is a term that the participants in our study employed to describe themselves. We do not completely agree with how they use the term, as we believe that all citizens are, and should be able to be, city-makers.

was done much later than the start of their initiative, as a way of locating it outside of the strict regulatory rules of the city governance. This primarily presented a way of encouraging and allowing for creativity by focusing on engaging with urban development, as opposed to dealing with bureaucracy.

Secondly, we saw the labs in our study as places of science and — in particular — symbolizing and embodying *scientific authority*. Importantly, this layer of the lab was constructed differently, in relation to different audiences. The scientific discourse was often applied at workshops and conferences to receptive audiences, often policy makers or sponsors of urban development. The 'scientification' of the initiatives we studied was a way of embodying authority and symbolizing knowledge production. For example, attending a conference, the civil servants and city makers involved in an urban lab initiative, played the role of scientists by literally putting on white lab coats, arranging the setting of their stall as a lab and decorating the scene with test tubes-wallpaper (see Figure 1). Hence, they were performing a popular version of science and of a laboratory:

"For the infra-tech conference, we arranged our area with the look and feel of a real laboratory and we walked around wearing white lab coats. This really appealed to the audience, we got a lot of attention".

Interview with lab-initiator and municipal policy maker, April 2019.

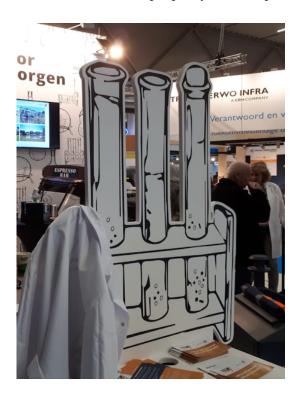


Figure 1. Capitalizing on scientific authority.

Embodying scientific authority made the initiatives' *raison d'etat* immediately clear — their importance or contribution were signaled by their nature, their *being* places of science. However, when these initiatives would present their work to urban populations in their development programs, the science discourse would disappear; the city-makers were uncomfortable sketching citizens as "lab rats" and would abandon the laboratory metaphor.

Thirdly, we observed the labs in our study as places of *participatory exclusion*. This insight is rather curious, as the main selling point and goal of the urban initiatives we studied was their claim of providing an infrastructure for citizens participation. For example, when urban lab-initiators had organized an evening for residents to participate in redeveloping their neighborhood, they did so very invitingly and willingly. As it took place during the evening, they had catered dinner and arranged the place in a way that reflected their own background, for example they had placed glossy booklets of their plans so residents could take a look. However, instead of taking inspiration from this booklet and the attention with which it was made, residents interpreted it as a plan already executed with no room for their voices and taste. As a result, they were rather angry and raised their voices at the meeting.

Including citizens in the plans of how to improve and develop the city is also the reason why the city of Rotterdam is positive about, and allows the space for, these initiatives to do their work. Yet we observed that — despite a very open and inclusive environment provided for citizens — the labs produced barriers to participation, which we term here 'lab literacy'. Lab literacy means that the symbols (language, visuals) used by lab initiators require a certain familiarity and experience in this field, in order to be able to operate among them. For example, this may be professional background, the ability to present ideas visually, branding and marketing experience or a familiarity with municipal and bureaucratic terminology. It may also mean having participated in similar projects in the past or knowing people who are, or have been, a part of these. When people do not have this familiarity (why would they?), they are less likely to feel confident about participating or getting involved in lab practices. The result, often, is that events about urban labs and city development are visited only by policy makers, architects, and lab initiatives representatives. These events are open to everybody and are invariably presented as collaborative and participatory, yet in practice are exclusive. While the latter is not done on purpose (the opposite!), it naturally follows from the 'lab literacy' barrier. Similarly, as sketched above, the glossy booklets which made use of architectural images and detailed maps, made it unlikely for residents of these areas to get involved and feel at home among the city-makers. Even though the living labs tackling urban issues aimed at attracting local participants and opening up the city for participatory democratic practices, the 'lab mystique' worked rather counterproductively in this aspect. While in other instances — when getting funding, arranging freedom from bureaucratic barriers or attracting collaborative partners from knowledge institutions or NGOs (who do have lab literacy) — it is precisely this mystique, which allowed the initiatives to go forward and flourish.

The three layers of the lab that we present here expose it as an ontologically unclear object. Its nature depends on the goals it has set (urban development, freedom to experiment), the publics it is being presented to (professional or lay), as well as on its permeability. Our argument is that this positioning has consequences for the city of Rotterdam, for citizen participation, and for the power dynamics between city governance, urban lab initiatives and citizens. In the following discussion, we link this argument to urban democratic participation practices and the notion of 'imagineering' [van den Berg, 2015], which helps us situate urban participation squarely within the lab mystique.

Imagineering and participation

Marguerite van den Berg [2015] picks up an unlikely term from the Walt Disney Company in her analysis of cities as marketing objects: "[imagineering} is about the way in which cities engineer the social, political and spatial through the production of imagery" [2015, p. 163]. As intended by Disney, the term links engineering and imagination in one. Van den Berg uses it as a critical perspective on how cities are often marketed through images, defining imagineering as "rewriting of meaning that is attached to urban environments and the social and economic effects this produces" [2015, p. 163].

Inspired by van den Berg's critical analysis, we use the term imagineering slightly differently — in the context of the laboratory as a place steeped in ontological confusion and plurality, as described in the analysis above. We are specifically inspired by van den Berg's statement that imagineering is "a form of myth-making" [2015, p. 168]. Our observation of living and urban lab labelling practices in Rotterdam led us to approach the lab as a mysterious object, precisely because of its many layers; the lab is a place of exception, possibility, science, participation, but equally it is one of exclusion and privileged knowledge, social capital and social barriers. All of these are true, yet the image of living and urban labs is a shiny, attractive and beautiful rendering of urban participation, i.e, the lab has become an (urban) myth through the mechanism of imagineering.

Why is this important and why should we care? Firstly, it is crucial that lab initiatives become less shiny and more down to earth by learning to speak with residents and not to them. Lab literacy represents a participatory barrier and should be removed; the ability to participate in lab initiatives in one's city is a democratic value and it should be supported. We hereby call lab makers and urban developers to be aware of how their publics respond to them. We are aware that this is easier said than done, but we believe more attention to this problem will lead to alternative forms of imagination and different forms of creativity. Such alternative imaginaries should be welcomed, just as lab literacy should become more inclusive beyond design terminology and design thinking. Practitioners should be even more mindful of their public communication and see their task as not only creating a lab to address an urban problem, but also infrastructuring urban participation and encouraging alternative forms of imagination. Imagineering the city should not become an exclusive domain of architects, city-makers and knowledge institutes.

Secondly, by understanding labs as 'imagineered places', we will be able to "rewrite" their meanings. The lab as an exclusionary place can be overridden by a different ontological layer — that of a democratic inclusivity. In van den Berg's words: "the in- and exclusions that imagineering produces should be at the center of attention in the investigation of imagineering practices" [2015, p. 174]. We second this call and suggest that living and urban labs should (also) be assessed through the lens of imagineering, with special attention paid to ex- and inclusion attached to them. It is our hope that academic work in urban studies, urban living labs and science-public communication will approach 'the lab' with more questions, as opposed to certainty. To give some examples of possible questions for future urban initiatives to ask themselves — both at the beginning and during their projects — we suggest the following: How do we think about creativity — what does creativity mean to us? How can we become more inclusive through language (and hoe is our current language exclusive)? Is lab literacy a barrier to our project? How do we foster alternative forms of imagination?

Concluding thoughts

Returning to the lab as a truth-spot [Gieryn, 2018], we may conclude that the lab's mystique is what makes it such a special place, allowing for experimentation, freedom and unperturbed knowledge production. Discussing truth-spots, Gieryn does not dismiss them as fake, but rather unravels their mechanisms, in order to understand what is it that allows these particular places to "make people believe". We take our cue from him in our discussion of the ontology of labs — we do not attempt to judge them as pretending to be labs or pretending to do science; instead, we suggest that the label of lab be examined and understood in its environment — the city, municipal and regional regulations, funding opportunities and, importantly, myth-making. Labs are truth-spots without a doubt — it is their particulate positioning between laboratory and field that allows them their special status of "innovation drivers" — but what kinds of truths do they embody and who is (and is not) allowed to imagine that truth?

In line with this essay's goal of stimulating discussion in the field, we pose that a process of 'demystification' of the label 'lab' is necessary when conducting analysis of living and urban lab initiatives. Our experiences with studying these initiatives point to their monolithic image both in the field and in academia, where attention is (rightly) paid to the types of knowledge they produce, while the question of what kind of place labs are is often left unasked. This is not to say that there are no critical examinations of labs in the literature [Rahmawan-Huizenga & Ivanova, 2022; Karvonen & van Heur, 2014; James Evans & Karvonen, 2014; Bulkeley & Castán Broto, 2013; Bulkeley et al., 2016; Oldenhof, Rahmawan-Huizenga, van de Bovenkamp & Bal, 2020], yet more work needs to be done in linking such examinations to particular social issues, such as urban participation, lab literacy or myth-making.

This essay attempted to unsettle and challenge the dominant view of living labs by offering a look at the lab initiatives in the Dutch city of Rotterdam, where labs are becoming rather common arenas of urban governance [Rahmawan-Huizenga & Ivanova, 2022]. Based on these insights, we fear that living labs may become myth-making machines by virtue of their status as truth-spots, beguiling often exclusive participatory practices and leading to a democratic deficit in the city. We hope that this essay will spark a discussion on this issue and that we will be able to discern similarities and differences of lab initiatives and their particular ontologies in different contexts.

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How to cite

Ivanova, D. and Huizenga, S. (2023). 'Imagineering the city: the living lab mystique and its discontents'. *JCOM* 22 (03), Y02. https://doi.org/10.22323/2.22030402.

