Citizen laboratories

An introduction to Medialab Prado

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The opportunity for citizen laboratories

On 15 March 2016, Medialab Prado received the ECF Princess Margriet Award for Culture from the European Cultural Foundation[1]. The jury highlighted the "extraordinary nature" of this project by the Madrid City Council, which "creates spaces for political participation and experimentation through new cultural initiatives that, from the public sphere, involve citizens and contribute to rethinking public institutions from within". We then decided to dedicate this award to the production of a documentary[2] and to the publication of a book about Medialab.

This book is intended to serve as an introduction to Medialab Prado and to an idea: a citizen laboratory, a name we decided to use to describe this public institution some ten years ago[3]. The best way to approach Medialab is by actually seeing what it does and how it does it. This publication is therefore a collection of texts about projects, working groups and accounts of personal experiences. With these approaches, we would like to showcase the potential of citizen laboratories in our world; why we need places where we can meet to experiment and develop projects in a collaborative way, places where we can collaborate and learn to collaborate, and places that provide an opportunity to improve living conditions in a collective way. Also, in order to share our way of doing things, this publication includes a guide on mediation in citizen laboratories as an essential practice to facilitate meeting, experimentation and cooperation.

[1] The ECF Princess Margriet Award for Culture is awarded each year by the European Cultural Foundation to two European cultural initiatives. Its purpose is to recognise the careers of inspiring people and organisations, whose work points the way towards new paths for innovation and creativity in the cultural field. In 2016, Medialab Prado received this award together with the Krétakör project from Hungary, a theatre company that uses theatre-making as a tool for community and social interaction.

[2] *Collaborating, experimenting, sharing. Welcome to Medialab Prado* (Lara Cano, 2020).

[3] At that time, the term "citizen laboratory" was already being used by the Citilab in Cornellá: https://revistalafactoria.org/articulos/citilabs-laboratorios-ciudadanos

Citizen laboratories

Citizen laboratories are public institutions in which people gather to create together. They are meeting places for collaboration, experimentation and collective creation that anyone can take part in. The initiatives are carried out in work teams formed by people who propose an idea and people who want to join in to make it a reality. You can find all sorts of projects in a citizen laboratory, such as for example a bio-digestor that transforms household organic waste into a gas that can be used for cooking; the collaborative translation of books, a videogame that can be played in the public space, a community vegetable garden that is accessible to people with reduced mobility, an interactive artistic installation, a data visualisation that tells the story of child refugees fleeing the war in Syria, the manufacture and distribution of accessible and open-source prosthetics, a project to build a citizen network with the Internet of Things, another citizen science project to measure air quality, the design of a new typographic font, a working group that edits Wikipedia articles to reduce the gender gap, or a group of amateur myrmecologists who share knowledge and build anthills with 3D printers... All these projects are possible thanks to the contributions of people who come up with these and other similar proposals, and all those who join in as volunteers and share their different knowledge and their enthusiasm for learning with others.

People from the fields of art, biology, architecture, programming, design and engineering are often to be found in citizen laboratories, but the objective is not only to get experts or professionals to collaborate together. The projects also involve people from academia, from the public authorities, activists, communities of affected people, amateurs with hobbies in such diverse fields as gardening, textile creation or brewing, and really anyone keen to make a contribution.

Thanks to a work structure based on the sequencing of two types of open calls, one for receiving projects and another for collaborators, it is possible to gather together people from very different worlds who did not know each other beforehand. This is why each project that is carried out in a team entails the creation of a new community of practices, learning and experimentation.

Based on a logic of open experimentation, citizen laboratories have three main functions: the production of prototypes, the creation of new communities of practices, and the dissemination of the results of the experiments so they can be used, adapted or taken forward in other contexts.

The open experimentation promoted by citizen laboratories means that the projects that are finally carried out do not need to look like the initial idea. There is no requirement to obtain a specific result. The initial proposal is only taken as a starting point, and it is not necessary to have a closed plan of what is going to be done. Thus, the contributions of collaborators, their mistakes and their unexpected findings are the basis of what actually happens. On one occasion, a project that had proposed the installation of a notice board to inform the neighbourhood about the activities that were taking place in the district ended up incorporating the traditional role of the town crier as a familiar and entertaining character who can perform this function of transmitting information[4]. In another example of a situated adaptation, a proposal to build a canoe with recy-

cled plastic bottles, based on a model developed in Cameroon, ended up becoming a small catamaran built with wood from pallets, oil drums and recycled canvas, using materials that were available on site and the knowledge of the people who made up the working group[5].

By bringing together a group of people with different profiles who have never met each other before, each new project is a challenge in terms of cooperation. Doing something together involves learning how to make something together and bringing into play skills that can only be acquired through practice, skills such as listening, empathy, knowing how to criticise and to accept criticism of the project, and to give credit to and recognise each person's contributions. Besides the cooperation that takes place within each working team, the fact that all the groups coincide in the same place creates an atmosphere of contagious collaboration in which to experience cooperation without the usual tensions of other contexts, such as the world of labour, in which the consequences of something that goes wrong can be more significant[6].

Documenting the initiatives that are developed is key to ensuring that the scope of an experiment goes beyond its localised experience. Using open source licenses to publish projects on the web makes it possible for someone else in another part of the world to download customised prosthetics designs[7] or consult Wikipedia articles that have been improved here in Madrid[8]. In addition, the groups share their working methods, their mistakes and the lessons they have learnt. This allows other similar initiatives to emerge in other parts of the world, and for them to cooperate together. A digital archive plays a central role in citizen laboratories and includes video documentation of other public activities involving training, reflection, debate or dissemination. The potential of the digital archive as a platform for international cooperation is huge and can be developed even further.

This type of experimentation, open to the unexpected, to anyone who wants to take part in it, and to sharing knowledge, is a good breeding ground in which to develop initiatives that seek to improve the conditions of the life we share. The possibility of improving living conditions in a collective way is sometimes referred to as citizen innovation. And citizen laboratories would be a type of infrastructure and public institution that channels cooperation, facilitates experimentation and encourages the sharing of results to broaden their scope.

The richness and the potential of a territory lie in the diversity of the people and organisations that coincide in it. At the same time, coinciding in one place also entails an enormous difficulty: the challenge of co-existence. If politics are about everyone trying to find the answer to the question of how we want to live together, then public policies and especially cultural policies should offer places in which to tackle that question. Citizen laboratories, where an individual desire becomes a collective one, offer on a small scale the conditions in which to do something together and to decide how to organise it and make it happen. They are places that try to make the opportunity for collaboration, innovation and coexistence effective. Places to learn how to live together.

4 "Pregoner@ (Town Crier)" is a project developed in Villaverde Experimenta in 2016: http://experimentadistrito. net/wp-content/uploads/ sites/32/2016/11/ Pregonera_compressed. pdf

5 Eco Boat 2.0 was developed in Interactivos?'18 Habitar los Residuos (Inhabiting Waste). With the participation of Ismael Essome, Carlos Corpa, Juliana Fragua and Lucas Alcalde: https:// www.medialab-prado.es/ en/documents/building-ecoboat-20-user-guide

6 Ensuring that everyone feels they are welcome to participate and that the process works as well as possible is a task of mediation.

7 The Supergiz project, by Autofabricantes, has parameterised its designs so that they can be automatically adapted to the measurements of anyone who needs them: https://autofabricantes. org/investigacion/ supergiz/parametrizar/

8 To date, the Wikiesfera project has organised more than 20 "editatonas" in which Wikipedia articles about women in different fields of knowledge are published or improved. Here is an example of an "editatona" about female scientists: https://www. medialab-prado.es/ actividades/editatona-sobre-cientificas-en-wikipedia-11f

"I was aware of Medialab Prado, its projects and its methodology, but it wasn't until I collaborated in the development of a project that I understood its true value". This is a comment we frequently hear from participants in activities at Medialab Prado. This publication is an invitation to delve into some projects and work groups, to listen to a number of first-hand experiences, and to learn about how Medialab Prado works.

The purpose of the Projects and Communities section is to provide an introduction to what projects are carried out, the people behind them, and how they go about them. To this end, we have invited three writers, Elena Cabrera, Carolina León and Silvia Nanclares, to draw up a brief account of a few initiatives and the communities that carry them out. More than 100 projects are developed each year and here we have selected 8 proposals that illustrate the diversity of approaches and topics that are addressed in a citizens' laboratory. The proposals are: Autofabricantes (Makers), which works on the design and manufacturing of open source prostheses; Soy de Temporada (I'm Seasonal), a data visualisation of the origin and harvesting times of fruit and vegetables; Wikiesfera, a project for the collaborative edition of Wikipedia articles from a gender perspective; Juego de Troncos (Game of Trunks), which proposes using wood from trees cut down in the city to build playgrounds and toys; Biocrea, a biology laboratory with creative purposes; Madrid for All, and Gen Z, which are, respectively, a collaborative mapping of free services for people without resources and a working group formed by teenagers that emerged from a collaboration with the Madrid4All team; and Democracia Híbrida (Hybrid Democracy), which brings together different types of experiences of deliberative democracy and ballot democracy.

In this section, we also wanted to share the experience of a framework of experimentation and collaboration that is broader than that of specific prototypes. Here we are referring to Puente de Vallecas Experimenta, a temporary citizen laboratory developed within the Experimenta Distrito programme, which proposes citizen laboratory experiences that act as seeds for the creation of stable infrastructures for experimentation and collaboration in districts within the city of Madrid. In this case, architect Jorge Martín described this experience that took place in 2019, from his perspective as a participating ethnographer.

Next, the Experiences and People section gathers together the voices of eleven participants who have experienced Medialab Prado in different ways. Isabel Martín and Santiago, Julia, Lola and Manuel Patiño are a family that tells us about their participation in the Coder Dojo workshops where they develop programmes for children; Juan Flores from the La Kalle association shares his experience in the creation of collaboration and learning spaces using free technologies; Carmen Haro talks about how she has introduced collaborative prototyping methodologies into her classes at the University of Valladolid; Víctor Clemente reports on his experience at Villaverde Experimenta; Mónica Sánchez reminisces about her first contact with Medialab thanks to her interest in the link between art and free technologies; Andrea Estankona looks back on her research stay which was part of her preparation for her thesis on centres of creation; from Mexico, Conrado Romo highlights the Medialab Prado proposal as a source of inspiration for undertaking new institutional initiatives in the context of Jalisco; Abelardo Gil-Fournier, a former worker at Medialab Madrid, assesses the evolution of the project and how it was inspired by the principles of open software; Doménico di Siena narrates his long-standing relationship with Medialab Prado and the relationship with projects that link physical and digital spaces for the creation of urban commons; Jara Rocha recalls her work as a cultural mediator back in the days when Medialab Prado was located in the basement of the Plaza de las Letras; and Elisabeth Lorenzi talks about the open textile laboratory she started as a mediator-researcher in the new building.

The final section presents a manual on cultural mediation for citizen laboratories. Cultural mediation, composed as it is of practices of hospitality, listening, research and connection that facilitate encounter, experimentation and cooperation for anyone and everyone, is a good way to define the methodologies that are the basis of the citizen laboratory model. The manual is accompanied by illustrations by David Cárdenas Lorenzo, which can also be admired in other parts of the publication. His drawings provide another point of view on the many ways of narrating what happens at Medialab Prado.

This publication does not seek to offer a closed description of citizen laboratories, but rather to approach them from a few of the experiences that have been developed at Medialab Prado. We hope that it will provide anyone who has never heard of citizen laboratories with an initial introduction to them, and that people working in the field of cultural management, libraries or public institutions will be encouraged to set up their own citizen laboratory models.

In December 2020, as we write these lines, the first edition of the programme *Laboratorios Ciudadanos Distribuidos. Innovación Ciudadana en Bibliotecas* y *Otras Instituciones Culturales (Distributed Citizen Laboratories. Citizen Innovation in Libraries and Other Cultural Institutions*) is drawing to a close[9]. The purpose of this project is to create an international network of distributed citizen laboratories that simultaneously facilitate both local experimentation and collaboration, and international cooperation. To this end, an open course is offered, entitled *Cómo Montar un Laboratorio Ciudadano y Construir Redes de Colaboración (How to Set Up a Citizen Laboratory and Build Collaborative Networks),* which offers methodologic tools to launch citizen laboratory experiences. The great interest aroused by this open call and the level of participation in the course and in the laboratory actions suggest that 2020, the year of the pandemic, will be a turning point for citizen laboratories and for Medialab Prado.

Marcos García and Laura Fernández, December 2020.

[9] This programme is developed within the framework of the Laboratorios Bibliotecarios (Library Laboratories) project, a collaboration between the Ministry of Culture and Sports, and Medialab Prado, which since 2017 has been promoting the confluence between libraries and the field of citizen innovation, the idea being to reinforce the role of libraries as meeting places for experimentation and collective creation.

Projects and communities

Auto-fabricantes

Tailored to each individual
Silvia Nanclares

In this learning and innovation community, technology is "merely" a tool that enables processes of trust and mutual support. It's a starting point, a lever that activates affective processes, the key factor in imagining, designing, testing and sharing prototypes developed based on functional diversity and autonomy[1]. It's a space where devices and prostheses take on a much greater meaning.

A special event
On 25 May 2019, a special event in the FabLab at Medialab Prado was attended by almost fifty people. Boys and girls, accompanied by members of their respective families, female collaborators and workshop coordinators, partners[2]... The whole group met to share the fruits of the fourth edition of the SuperGiz project, one of the main pillars of the Autofabricantes (Makers) research and digital production community. The project revolves around a highly innovative concept of 3D hand and arm prostheses. The participating girls and boys, as well as two adult participants who joined us for this edition, all have agenesis (defined as the congenital absence of a limb or part of a limb) or lack normative functionality in one of their hands or arms[3]. Today, four children and two adults will take home their SuperGiz, gadgets co-designed and digitally manufactured for each of them through teamwork carried out over the months of the workshop. From today on, the prototypes will cease to be prototypes. They'll be put to use and will substantially improve the participants' daily lives. In addition, the entire process will strengthen their "sovereignty" over their bodies. That's why today's meeting is so significant.

Autofabricantes: a community that exemplifies Medialab Prado
Autofabricantes has a fractal structure. Having observed their projects and, in particular, the dynamics involved in launching and keeping them going, that seems like the most fitting description for the community. They have utterly specific ways of doing things which have developed and stead-

1 "Prototype", construed in a broad sense, refers to the design of objects but also of services, institutions and networks that offer specific solutions and answers to all sorts of problems. The aim is for the people involved to play an active role in the prototyping process to foster criticism, experimentation with shortcomings and comparison of different alternatives.

2 Project partners include the 3D Héroes Association and the Rafa Puede Foundation. The project is also supported by Medialab Prado, the Daniel y Nina Carasso Foundation and the company ShapeDiver.

3 The notion of ability is being re-envisioned based on the conceptual framework of functional diversity. In this respect, "normative functionality" denotes the abilities that are normatively and customarily attributed to the body. On this subject, see (available in Spanish only) Mario Toboso Martín's paper "Diversidad funcional: hacia un nuevo paradigma en los estudios y en las políticas sobre discapacidad" in *Política y Sociedad*, 55 (3), 2018, pp. 783-804.

What?
A research community that seeks alternative and accessible open code functional diversity solutions, in pursuit of inclusion and "sovereignty". Based on a philosophy of open knowledge and co-production, it undertakes and shares research into autonomy and quality of life by means of digital manufacturing. It is part of Medialab Prado's Body, Health and Autonomy Lab programme, which falls under the purview of the "PrototipaLab" a prototyping laboratory.

When?
Since October 2015.
The group meets weekly on Monday evenings in the FabLab at Medialab Prado.

Who?
Research processes involve families, project end users, technical experts and anyone else who wants to take part.

Additional information
Reference websites:
http://autofabricantes.org
http://autofabricantes.medialab-prado.es
Twitter: @autofabricantes
YouTube channel: https://www.youtube.com/channel/UCtpu6MnQ5rrAYaYVlZLYuUQ
SuperGiz:. http://autofabricantes.org/investigacion/supergiz/
Henar: http://autofabricantes.org/investigacion/henar-3-2/
Bipedestador: http://autofabricantes.org/investigacion/bipedestador/
EXando una Mano: http://exandounamano.org
Zoom Net report (RTVE): https://www.youtube.com/watch?v=2uD7jxfChZg

ily gained traction as different personal and technical challenges have arisen, always based on the participants' own experiences and circumstances. These challenges give rise to nodes of research which, far from becoming stagnant, tend to be replicated and perfected. Community, trust, expert knowledge in combination with experience-based knowledge, prototyping... These elements are always present in the group, but they take varying forms.

Autofabricantes is, in short, a living system, with all of the consequences that this entails. This vitality is underpinned by points that repeat to form, time and again, the same network. Given the nature of the project, this network also happens to provide vital impetus to many of the people that comprise this community, as the results of the research –and the very processes themselves– revolve around the well-being of these people. Allow me, then, to qualify my earlier statement: Autofabricantes is an affective network with a fractal structure. A network which on closer inspection, moreover, provides many keys to understanding the working groups that meet and are given impetus at Medialab Prado. It is thus an excellent example in terms of explaining the institution's ecosystem. Right, that's all well and good, but what is it that they actually do in Autofabricantes? Despite the group's relative youth, it covers a very broad spectrum and is diversified into different projects, so the best way to answer that question is to get to know some of the people at the heart of one of these projects.

Let's return, then, to the final meeting of the SuperGiz project in the FabLab at Medialab Prado, where there's a group that's deeply absorbed in conversation; its members seem dissatisfied. "We're making readjustments", I'm told by one of the industrial engineers who support Patricia, the person at the heart of the project. Today they experted to obtain some results with the gadget they've been working on, which will allow Patricia to hold her mobile phone with one hand while writing with the other. "It's foolish, you know? But it reminds me that I want my old arm back". Everyone involved gives Patricia looks and gestures of support, conveying their empathy for her dissatisfaction. They need to grapple with the materials and functionality of the gadgets, but sometimes that's the easiest part. The most vital task is to manage the process of acceptance undergone by the people that the workshops are devoted to. They are little hives that work to develop imaginative solutions to the material difficulties that arise when you don't have a normative body.

In reference to Julia, her seven-year-old daughter, the girl's mother tells me: "The first time we came, Julia was quiet the whole way back home. In the end she told us that, on seeing it was possible to build a gadget that would let her make a ponytail, she realised she wasn't able to do it on her own". Today Julia gazes at Alicia de la Gándara, her team's aeronautical engineer, with a look of devotion. She, Julia's family and her occupational therapist are all discovering the gadgets inside the backpack given to each of the project's end-users. "After two days she was already asking us when the next time we'd be back to make her 'gizmos' was", adds her mother. Each of these gizmos has a specific function. The hair tie is, of course, one of them. There's another for archery, one for laying out cards, one that holds crafting materials. Julia and Patricia have travelled many kilometres to be here today (from Ciudad Real and León, respectively). Both of them have involved their families, and they both learnt of the existence of Autofabricantes from sources outside of Medialab Prado: Julia's mother, from a lady who approached them on the beach, and Patricia, from a report on TV. Happily, Autofabricantes casts a wide net.

SuperGiz, one of the main pillars of Autofabricantes, is based on a very innovative concept of 3D hand and arm prostheses

Both Patricia's group and Julia's group were coordinated by one of the permanent members of Autofabricantes, the parent community from which SuperGiz stems. Patricia's group was run by Francisco Díaz, one of the founders of Autofabricantes and a former Medialab Prado mediator. Julia's group was coordinated by Rosalía González, an industrial engineer. In both groups, female collaborators (physiotherapists, engineers, family members, therapists) supported people who, like Julia and Patricia, made themselves visible in this process of (self-)exploration and collective design. The SuperGiz project involves some of the core concepts that run through all Autofabricantes projects: female end-users or the individuals concerned enjoy learning, reflect on their bodies, and accept that they're in control as "sovereigns" just as they are, without being worked on with a palliative or generalised approach. The personal challenges faced by each end-user are taken as

a starting point in order to go on to tackle possible solutions as a group with specific, simple objectives, which enables experience-based enjoyment and involvement. That's why in addition to the terms "end-user", or "workshop participant," the Autofabricantes community likes to call Julia and Patricia "experts in experience". Who better to guide the investigations?

A horizon full of challenges

Next, I speak a bit more with Fran Díaz, one of the developers of Autofabricantes, after the workshop has ended. We talk about how families' participation was always part of the project's DNA, right from the very first project, EXando una Mano (A Helping Hand). This project, originally launched to meet the needs of a Sevillian family affected by agenesis, included engineers, female FabLab users from the Polytechnic School of the University of Seville and collaborators who made up a small but innovative community. It was after this experience that Fran was inspired to submit the Autofabricantes project to Medialab Prado's mediation and research open call for the 2015-2017 period[4]. Now, two years on, it has come up against some new hurdles. The most immediate of these is the desire to improve the workshops' process and methodology, especially in terms of next steps. There's a palpable excitement in the air after this workshop ends, because it's now that SuperGiz will enter its most crucial phase: the project's end-users will start to employ their gadgets. "They will be backed by a community that provides technical support, as together with gadgets they are given documents on

4 On mediation/research at Medialab Prado, see the section called A mediation manual.

Project end-users are assisted by a community that provides technical support. Along with their gadgets, users are given documents on making modifications as well as quality of life tests that enable medical validation of the prostheses and gadgets

making modifications. They also know that they can turn to the community if any difficulties arise during use". With their gizmos, they also receive quality of life tests that enable scientific and medical validation of the gadgets and prostheses. That's another of the strengths of the Autofabricantes projects: the fact that, through innovative practices in more standardised fields of research such as medicine, these sorts of processes and results can be combined based on open knowledge; it's a sort of mosaic of diverse knowledge that changes lives. That summation would be a nice point on which to wind up this look at SuperGiz, although there are many more challenges facing Autofabricantes. But first, I ask Fran to attempt to define Autofabricantes.

According to him, Autofabricantes is "loads of projects in different stages of development, some tested and up and running, others in the research phase (either early or advanced). Each project operates in alliance with different organisations or associations involving the people that the project might work for, either from the outset or once it's been launched, because the projects gradually change to ensure they'll be functional and useful to people". These alliances are essential for a project that has always aimed for geographic expansion. "There's the Technical University of Madrid (UPM), the Rafa Puede Foundation in Murcia, the CeLeo Foundation
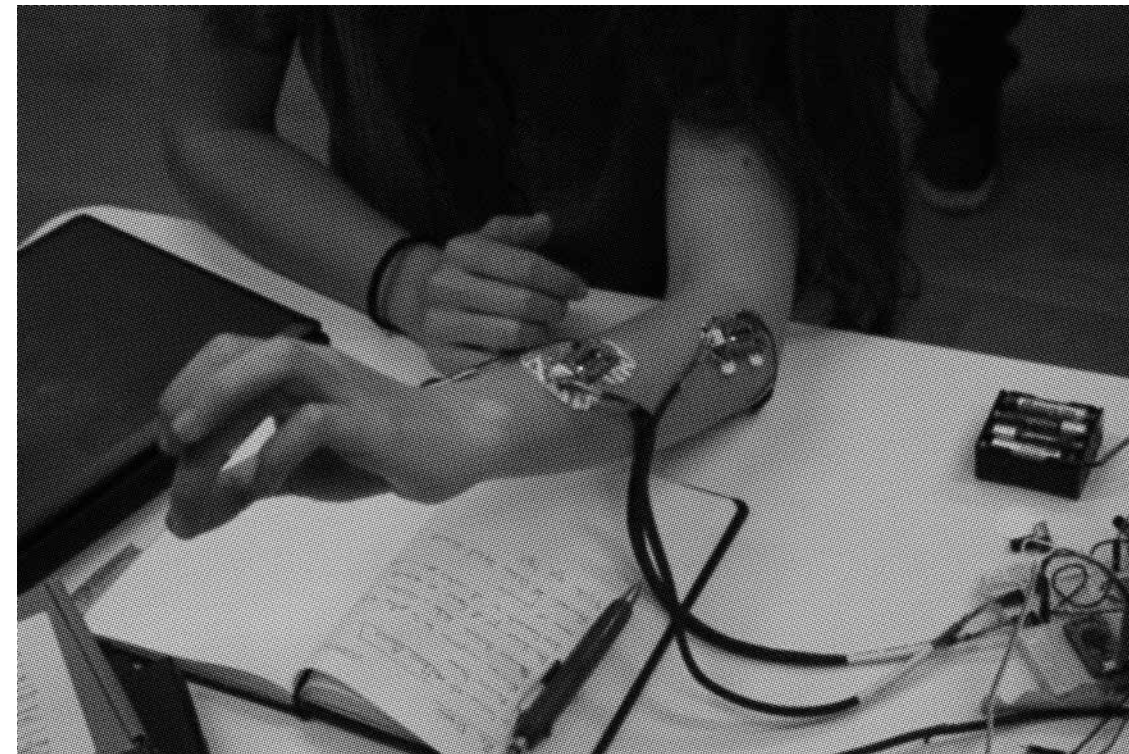
in Cuenca (Henar psychomotor skills and music project), the Amigos de Miranda Foundation (standing frame project)". Operating via these sorts of alliances with other similar projects, another of the current challenges is managing to transfer the Autofabricantes methodology, so that nodes can be established and strengthened in other territories. Examples include the University of Gijón, the University of Oviedo, the University of Alicante and Don Bosco University in Donosti, where the Autofabricantes community is currently involved in various processes, and where – and this is the ultimate goal – the projects could act as seeds that sow new communities based in each territory.

Tailored to each individual

"We have to move at the pace of the people involved in the projects", says Fran, echoing one of the maxims of Autofabricantes, whose methodology places key importance on situated knowledge. Moreover, "Autofabricantes is greater than any one person, irrespective of the comings and goings of those who make up the community. Everyone makes a contribution based on where they are or what they can do". At present, the community comprises some twenty permanent collaborators, plus the fifteen students from the Technical University of Madrid who attend the FabLab every Thursday. It is perhaps this core structure what enables the community to sustain some convictions. Beyond the question of sustainability, which is always an issue in communities, one of the current challenges is to strengthen and delegate in terms of intramediation. It's a job that often becomes invisible inside communities, like that of care. "We need to activate the parts of the project that will enable us to continue to meet the external demands that are

In Autofabricantes, the users enjoy the learning process, reflect on their bodies and accept their "sovereignty" over them just as they are, without being subjected to a palliative, generalised approach

arose: Why is it necessary to create a hand that's shaped like a hand? "It's in a setting of mutual support and trust where innovation occurs". And that's the key takeaway.

becoming hard to meet right now because there's no internal muscle. We'd need a micro-structure devoted to management, coordination, follow-up, etc.". Projects can't live on open calls and workshops alone. If they are to last over time, it's crucial for them to be self-supporting, and not just on a financial level.

Fran Díaz: "Creating community is hard work, and it only takes a second to destroy that trust. It's in a setting of mutual support and trust where innovation occurs"

Today, four years after it was launched, the Autofabricantes project continues to excite and have relevance for many people. Its porosity and versatility may be key factors in this. "We aren't married to any one technology. 3D printing is a tool, it enables material processes and that's all". They aren't motivated by the use of technology in the absence of processes. "Communities, with their needs and demands, make projects real. Projects are made by people, and their trust and fragility goes into them". But all that requires a great deal of nurturing, a lot of care. Each step must be taken tentatively, caring for the people in the teams. Autofabricantes works with sensitive issues, such as privacy, one's own body, diversity, limitations. If care is crucial in every community, the matter seems even more delicate here. "Creating community is hard work, and it only takes a second to destroy that trust", Fran says with disarming aplomb on the subject. It was in an environment of trust, working alongside families, that the question that has inspired so many workshops – including SuperGiz –

Soy de Temporada

Understanding what we eat
Carolina León

On one of the episodes of the American TV show *The Good Place* – a modern-day, comedic treatise of free will –, they show how the simple act of buying a tomato has so many dire consequences that anyone who does it is condemned to spend an eternity in hell. The show's fictional premise is that each person's actions during their life on Earth are weighed in a complex scoring system to decide whether they go to the "Bad Place" or to the "Good Place" when they die. Its main characters are damned for things as simple as what they decide to buy for dinner.

What are the implications of purchasing a tomato at any time of year, a tomato which, moreover, is available year-round in the supermarket? Beyond the fictional TV show, in real life it entails unwittingly contributing to the exploitation of illegal agricultural workers, fostering unbridled use of plastic in greenhouses, and furthering global warming. In our complex, hyperconnected world, absolutely everything can trigger small- or large-scale effects. For decades, ethical consumption movements have been proposing individual and collective actions to lessen these effects. Continuing with our symbolic example of the tomato, or with produce in general, an initial goal could be something as simple as trying to make informed purchases in sync with nature's cycles. But does the typical urban consumer really know what time of year tomatoes or any other foods are harvested? That question was what inspired the creation of Soy de Temporada.

Two journeys run parallel to the existence of this project: the one made by produce from farms all over the world before it reaches supermarket shelves and is offered, ripe and succulent, to consumers; and another journey, more modest but of key importance here: the one that brought Flora Fosset to Medialab Prado.

The food we're offered in shops undergoes large-scale migrations that have all sorts of consequences: they produce greenhouse gases and contribute to global warming

Flora is a good example of a "transplanted" local product, and of a consumer eager to explore a new awareness. Raised in Brussels, she admits that when she grew old enough to do her own shopping, she had no idea which foods were seasonal. What was there because it had travelled tens of thousands of kilometres, and what had come from a nearby garden? She had never even considered the fact that food made a "journey". Her family of city-dwellers and environmentalists had passed on their concerns to her, but not that sort of information. She realised she didn't know how to identify where that tasty-looking tomato had come from, and that many of her peers were also unable to do so. Later on, her interest would lead her to explore the consequences of all of this.

Motivated by a desire to tell stories, at the age of 18 she decided to study Journalism. In the third year she signed up for an exchange to learn Spanish and spent a term in Chile. After finishing her degree in Belgium, she tried hard to find an internship, ideally somewhere in Latin America. She had no luck, but she travelled to Madrid for the first time and was welcomed as an intern at La Fábrica. She liked everything she encountered, and although she had to go back to her country to do a Master's degree, as soon as she

finished she returned to Madrid, bringing her curiosity with her. She still didn't know exactly what she wanted to do career-wise, nor did she know many people, but a friend told her about Medialab Prado. Flora headed there and stepped through the door in Calle Alameda.

Data tells a story. Visualisation enables large amounts of information to be condensed into an image, which achieves a more immediate effect and has a greater impact

As usual, things were happening in the lab. She was lucky enough to arrive in mid-March 2017, on the third edition of Open Data Day[1]. Flora's inclination towards stories was already drawing her into the world of data, which she saw as an open forum for organising the avalanche of digital information available in certain fields, which could give shape to the research that interested her. "I was so nervous as I took to the stage to explain my idea, but to my surprise, several people joined up and wanted to help me develop it". The research project she proposed was a study of the cost of rent in Spain's major cities, and what portion of people's rent it represented. A group of participants signed up, eager to help, and that was the beginning of her first experience coordinating a team: a team that was particularly excited to analyse data, design interfaces and pool their knowledge.

The team started to develop the idea in connection with the 5th Data Journalism Workshop, led by Adolfo Antón. With the name "Empty Spain" ("La España vacía") and the motto "Tell me how much you make and I'll tell you where to live", they set out to make rental data understandable[2]. It was Flora's first experience at Medialab Prado, and her first time coordinating a multidisciplinary team. It was also the "seed" that would grow into what came next.

Visualising to eat (better)

"Data tells a story" is one of the mantras of the data visualisation movement. Good visualisation finds the story that one really wants to tell, but it is also able to highlight important points without ignoring anecdotal details. With visualisation, large amounts of information can be condensed into an image to achieve a more immediate effect that has a greater impact. A few months after the workshop, preparations began for the seventh edition of Visualizar (Visualise), which was devoted to the topic of migrations[3]. A large number of ideas were submitted. Eight were selected, including "Grown there, consumed here: food's journey to your pantry" ("Se cultivan allá, se consumen aquí: la travesía de los alimentos hacia tu despensa").

A simple tomato: the one that lost points for that New Yorker who took it home unconcerned, and which even, perhaps, damned him to hell... The food we're offered in shops undergoes organised, large-scale migrations through the market that are agreed in the offices of international lobbies and organisations. These migrations have all sorts of consequences: whether the food is imported or grown on an industrial scale within the country, greenhouse gases are produced, contributing to global warming. Moreover, transport between regions and continents has an impact on the environment, as it depends on fossil fuels, and the quality of the products themselves, which are packaged and stored for weeks, diminishes. And yet it's perfectly possi-

1 International Open Data Day has been held on an annual basis since 2010. Medialab marked the 2017 edition on 4 March with an open call for projects on the following subjects: tracing the flow of public money, open data relating to the environment and human rights, and "empty Spain". More information at https://www.medialab-prado.es/actividades/dia-de-los-datos-abiertos-2017.

2 Data journalism consists of searching, interpreting, comparing and contrasting data to enable in-depth familiarity with it so that it can be presented in the form of images that the average user can understand. Since the widespread inclusion of IT in corporate processes and, more recently, Web 2.0, everything is contained in databases that visualisation helps to interpret. The 5th Data Journalism Workshop was held at Medialab from April to June 2017. More information at https://www.medialab-prado.es/actividades/v-taller-de-produccion-de-periodismo-de-datos-la-espana-vacia.

3 Visualizar is one of Medialab Prados's longest-running workshops. Active since 2007, it investigates the social, cultural and artistic implications of the data culture and proposes methods to make data more comprehensible and to open up pathways to participation and criticism. More information at https://www.medialab-prado.es/programas/visualizar.

ble to consume a tomato at any time of year. "It's not nature, it's capitalism!" one might conclude. But neither the guy from New York nor the girl from Madrid know exactly what produce is harvested at a given time of year, or why certain products are always available.

"I always have a file of possible ideas, twenty or thirty different topics I'd like to explore. Rental and food supply are both subjects that everyone is affected by, and the issue of food has concerned me for quite some time". The Belgian journalist applied to the Visualizar open call with the idea of taking an in-depth look at food's "migration", recounting the journey that brings it to us and noting the implicit effects of this journey. The team that signed up to join her consisted of four other people with complementary backgrounds: Flora and Jimena García were both journalists, with the former acting as team coordinator. Diego Ramírez joined as a programmer who would develop the application. Pau Valiente contributed his knowledge for the purpose of designing the web and the user experience, and Raimundo Abril helped improve the visualisation.

During the two-week workshop, they began by analysing what information "official calendars" offer about allegedly seasonal produce. The first thing they found was that this information is dubious. Returning to our example of the tomato, according to the information offered to this day on the Spanish Ministry of Agriculture's website, via a tool called Seasonal Vegetables (Hortalizas de temporada), anyone would conclude that tomatoes are produced every month of the year. Is that true? Yes. But, why does it happen? Don't they have a specific season, as a fruit that needs, moreover, a certain amount of sunlight to achieve its colour and flavour? Information provided by the ministry itself leads us to understand that this is indeed the case. Flora and her team thus concluded that the "calendars"

made available don't take into account either the origin or the production method of the food in question.

They downloaded this and other annual guides, compared them, and found that they contradicted each other. Not one contained reliable information that could help a consumer with no agricultural experience determine what to eat and when. After analysing and cross-checking databases, they were still unable to find adequate correspondence between foods, seasons and farming methods. They thus decided to go to the source: they began a round of interviews with farmers from various areas, to ensure that they also got a picture of regional differences. During the workshop, they managed to draw up a tentative farming and harvesting calendar for the Iberian Peninsula, but the allotted time lapsed and the results were patchy.

Given that they worked so well together as a team, they set themselves the task of creating a truly "seasonal" website.

Yes, yes, I really am seasonal

The end of the workshop thus simply marked the continuation of what they had already begun: they ultimately changed the project's name to Soy de Temporada (I'm Seasonal), and focused on drawing up a reliable calendar for produce grown in Spain to help people determine what to eat and when via a website designed to be fast and user-friendly, which people could even check while shopping. Flora, who says she is "absolutely in love with the project", also drew encouragement from the response that the idea met with, as well as the desire of the team members to carry on developing it. Working on a part-time basis as volunteers, they continued to compile the calendar over the next year. The quality and reliability of the information provided by Soy de Temporada grew as surveys were compiled and data was organised.

Over the next few months, Flora focused on promotion, talking about the project in forums and trying to find funding to make it sustainable. Even so, the application wasn't designed to make a profit but rather to be useful; it was developed with altruistic intentions, as an open-code tool. The notion of entering startup competitions or securing entrepreneurship grants is at odds with the fact that it wasn't designed around a business model: there's no short- or long-term profit involved.

Once it was up and running, however, it continued to gain traction at a rate disproportionate to the efforts being put into it: in 2018 it was covered in the media, disseminated on social networks, various interviews were held with the team, etc. While these efforts were underway to inform people of the project, one day the popular blog *El Comidista* devoted an entry to it, calling it "one of the clearest, most accurate, comprehensive and user-friendly sites on fruit and vegetable seasonality"[4]. This entry caused the number of website queries and users to shoot up.

Nearly two years after its creation, a simple search leads to the following conclusion: the collaboratively-created site developed through many hours of volunteer work is an essential reference tool for any consumer attempting to align their shopping with the seasons and with nature. As its data is open, some media outlet websites, food sites and even one supermarket website have installed search widgets that receive data directly from Soy de Temporada. Today, the calendar contains accurate information on sixty foods and can be used to enable more responsible purchasing with a lower environmental impact. "But also, to eat better", stresses Flora.

4 Rodrigo Casteleiro García, "La guía definitiva de los productos de temporada", in *El Comidista [blog]*, 2 April 2018 (in Spanish): https://elcomidista.elpais.com/elcomidista/2018/03/22/articulo/1521736026_845773.html.

Taxi, follow that food!

In March 2019, Medialab once again embraced the food journey as a topic in the seventh edition of the Data Journalism Workshop, which had the catch title "Follow the Food" ("Sigue el rastro de la comida")[5] and was devoted to a detailed study of livestock, petrol and agricultural or processed food products. The same conceptual motivation that produced Soy de Temporada, i.e., knowing what to eat and when, is also behind its latest incarnation, which aims to show the environmental and economic costs of consuming products that have travelled thousands of kilometres to reach our tables. It was Diego Ramírez, as a member of the team that developed Soy de Temporada, who entered From the Seed to your Plate (De la semilla a tu plato) in the call for projects, as a spin-off of the original concept now used by so many[6]. During the workshop, the project focused on the production line for a small number of foods (kiwis and, of course, tomatoes), tracing the entire food journey and its implications. We will be able to see their results in the future: data compiled during the event will soon be turned into infographics that anyone can view.

As its data is open, some media outlet websites, food sites and even one supermarket website have installed search widgets that receive data directly from Soy de Temporada

Today, the team has disbanded, but it's most likely simply gone dormant, waiting for the right moment. Flora is still in Madrid, and we imagine her checking her file of twenty or thirty ideas to be developed at the same time as she works to keep Soy de Temporada alive, with Diego's programming assistance. "A few months ago, someone told me they used it every week to do their shopping. All those hours of work are proving useful to somebody!". Indeed: Medialab Prado has served as the birthplace of a large number of projects created with altruistic intentions, which have put collective knowledge and skills to work and have gone on to be used by many people.

"The more it's used, the greater its potential influence", says Flora. An influence that could help achieve a smaller ecological footprint and less waste, or perhaps even end up influencing employment in the sector, decision-making among farmers or the recovery of seasonal foods that have disappeared from our consumption patterns. What we do know for certain is that right now we have access to a calendar we can actually trust to help us buy seasonal fruits and vegetables, which are not only tastier but also aid in ethical consumption.

If this was fiction, like on that TV show, it would even be our ticket into paradise.

5 More information at https://www.medialab-prado.es/programas/taller-de-periodismo-de-datos-2019-sigue-el-rastro-de-la-comida.

6 More information at https://www.medialab-prado.es/proyectos/de-la-semilla-tu-plato.

AVFloss

Techno-Craftsmanship
Elena Cabrera

What?
AVFloss experiments with workflows with the aim of promoting free, collaborative audiovisual production, seeking free tools and networks that offer an alternative to proprietary ones. Its members train themselves on these tools using a self-learning methodology, and equip themselves with the skills to work in a distributed, self-managed manner. The group belongs to AVLab, a space for creative experimentation in the sound, visual and performance arts, encompassing everything from experimental music, live audio and video processing, video games, media façades (like that of Medialab Prado itself), the performing arts, performance art and live performances.

When?
Since October 2016.
The group meets in person every second Thursday from 6pm to 9pm, and virtually during the other two weeks of the month.

Who?
Some twenty individuals are present or past members of AVFloss. They include visual artists, teaching professionals and people interested in video editing, the audiovisual arts, photography, design and development of open-source code.

Additional information
Reference website:
https://www.medialab-prado.es/actividades/avfloss
GitHub repository:
https://avfloss.github.io/
Twitter: @AV_floss
YouTube channel: https://www.youtube.com/channel/UC1sZzgbNb_cndz1iatuHfzQ
AVFloss presentation at "A Year in a Day 2017":
https://www.youtube.com/watch?v=OeociLqGbvQ&t=1s
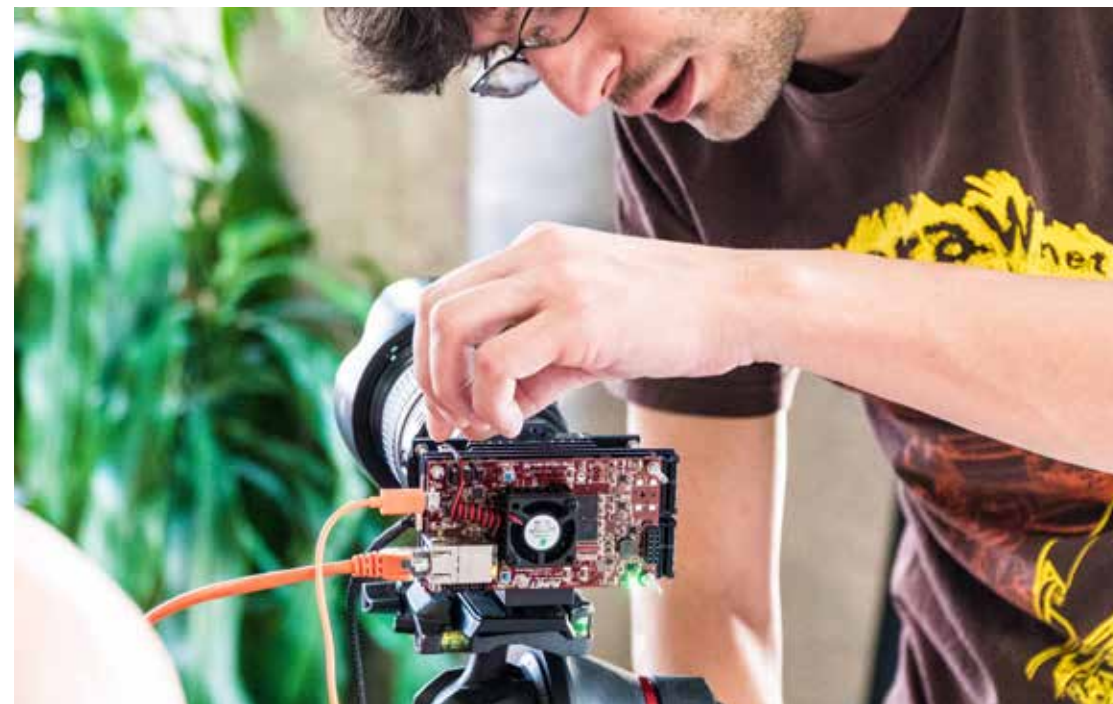
In the age-old debate between reason and knowledge, between science and technology, they would choose the last of these, or rather, *techne*. They like this Greek concept, which makes no distinction between art, technology and professional practice. It refers to the ability to transform natural reality into artificial reality, but to do so following a set of rules. And it's precisely because rules exist that *techne* can be learnt and transmitted, or, to use a term more closely tied to the Medialab lexicon: it can be replicated.

AVFloss sees no dichotomy between art and technology. Rather, since *techne* encompasses all that is artificial, all that is artistic (it is derived from the same aetiological root as the latter term), it falls under the umbrella of the technological. Based on this premise, one of the aims of the group's work is to redefine the relationship between art and audiovisual technology within the FLOSS[1] ecosystem.

The group was created in October 2016. From the outset, when the open call for participants was launched, the group presented a scenario where audiovisual technology had become highly accessible, generating enormous amounts of production each day and fostering a market where private code and its tools had established themselves as dominant. In its presentation, the group said that such a system facilitates the emergence of consumers who are uncritical of audiovisual products rather than the emergence of *prosumers*[2].

Almost three years have passed since that initial declaration of intent, and the group, which has gone through various stages and members, remains faithful to these principles, although some participants have raised a dilemma which shakes these foundations: if there's an easy way to achieve the same result, why are we complicating our lives?

"Using free software means that we have more difficulties and limitations with some things", explains Eva, one of the group's earliest members.

1 FLOSS stands for "Free Libre Open Source Software", with the Spanish world *libre* included to clarify the ambiguity of the English word "free", which can mean both free of charge and unrestricted. In this case, "free *libre*" stresses the freedom enjoyed by software users. Free software, then, is any computer program whose source code can be freely studied, modified and used for any purpose, and can be redistributed with or without changes or improvements having been made. In contrast to free software, open source is a software development movement and model based on open collaboration that focuses more on the practical benefits of access to open-source code than on ethical or freedom-related concerns regarding free software. Source: Wikipedia.

2 Prosumer is a portmanteau derived from the words "producer" and "consumer". Source: Wikipedia.
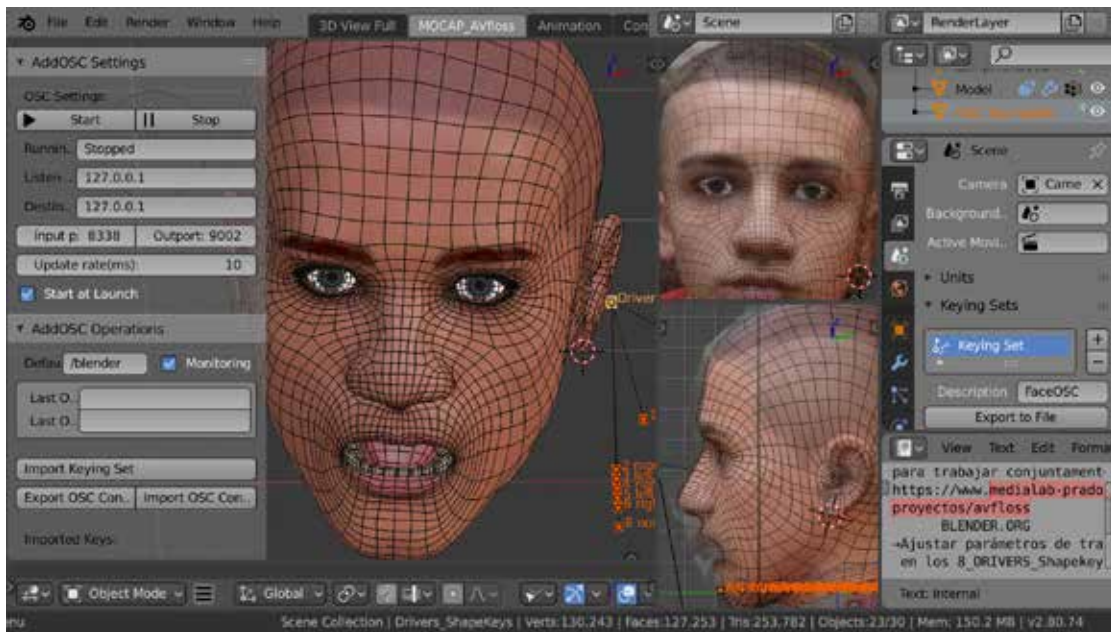
"We have to spend a lot of time on technical aspects to do things that people have usually solved, more or less, with high-level or user-friendly tools. Such tools are proprietary software and we don't have them yet. I'd like to be able to spend less time on that and more time developing ideas".

Toasting in the canteen

Open knowledge lies at the heart of the group, even in its very name, as well as at the heart of Medialab. Some members who prefer to take the fast route have thus ended up leaving. Sometimes they return and then the debates start up again, with the same old arguments rehashed over a few beers in the centre's canteen: with free software you learn to learn, which makes the journey more exciting than the destination. Free software unites, forges bonds and knits communities together because there's always someone who knows what you need, and vice versa, which means it's a notion antithetical to that of a paid course taught by a teacher in a classroom, whether real or virtual. Free software also enables you to contribute your little bit of code to a huge project, something which in an opposing model could only be done by companies with deep pockets. Moreover, we haven't got two pennies to rub together and can't afford to buy that powerful, user-friendly, well-designed program, and the truth is that we no longer really want to, anyway. After setting out all of these arguments, they raise a glass and a lightbulb goes off for someone: free software is much more gratifying.

AVFloss dissects programs bit by bit, figuring them out in order to make the absolute most of them. When they feel like they've reached the limit, like the application isn't going to give them what they need, it's time to program a plug-in[3], to collaborate with someone else or invent a creative solution. They would prefer to take three months longer, thinking it over again and again, than to knock on Adobe's door.

"For me, the nice thing about free software", says Antonio, one of the group's new members, "is that it's cool when someone gives you a simple explanation". He is referring to the group's duty to transfer acquired knowledge. They're working with the program Blender[4] and with 3D, an area whose complexity they aim to simplify to help others who are wading through the same swampy waters. "For a kid with an interest to be able to find material that explains the basics", he adds, looking at the group, smiling but not lifting his fingers from the keyboard, reconciling an eagerness to speak with the desire to carry on fiddling around. Antonio and the others meet in the upper part of the Medialab building at an hour which, in winter, means it's already dark, and they stay there until people come to kick them out. There are fifteen days left, and they've come loaded down with equipment: cameras, tripods, lenses, chargers, computers and all sorts of other things, to tackle whatever might arise. "You never know", they say.

They agree that they're taking the slow route, but they also say there's no hurry. "We know that processes are what matter the most", says Eva. "With the demands that exist in this production system, it seems quite healthy to focus on the learning process: sharing, creating workflows with tools that we like and view as much fairer and more important on a social level", she adds. But in 2019, with an open call for participants that didn't happen until February, they lost a lot of time getting themselves organised: choosing which free tool to use to make the calendar, which one to use for the video calls for their virtual meetings, who to use for their email, where to store things, how to document the process, what direction to move in.

2018 was a leisurely year distinguished in large measure by the absence of mediators at the centre; the new team arrived much later than desired due to administrative issues that delayed their hiring. It was thus a quiet year for AVFloss, especially compared to the frenetic 2017, when three actions were carried out that brought attention to the group. The first was the group's collaboration on the performance piece *Poetic Fragments of Gabriel García*

With free software you learn to learn, which makes the journey more exciting than the destination. It unites, forges bonds and knits communities together

Márquez[5], which made its debut at Medialab Prado and involved three of the centre's working groups: the Performing Arts Research (Investigación Escénica) group, the Live Coding music group, and AVFloss itself. The theatre group gave them the script, and the members of AVFloss – who numbered no more than six at that time – thought they should do something "doable", remembers Julián, who worked as a mediator for the group before deciding to join it. They chose video mapping, a technique that involves projecting content onto objects and altering their appearance. They would have preferred to do something collaborative, but with the aim of making a decent job of their first group project at a time when they still hardly knew each other, they decided the projections for the production would be cast onto flat structures, making the job "relatively simple" but visually pleasing. "We didn't have time to physically meet as a group to be able to develop a shared narrative", remembers Julián, "so each person developed it on their own. It was an interesting exercise, though, and the first time that we got involved in a production as a group. We weren't aware of everything that a production entailed, and we gradually learnt about sound and lights. It got us out from behind our screen".

3 In contrast to proprietary software, anyone can develop a complement or plug-in for a free software-based program. It would be an add-on to the program with which to perform a specific task, an improvement to the code created by the initial developers. If AVFloss were to develop a plug-in for a program they use a great deal, such as Blender, then naturally, and in keeping with the "*free libre*" spirit, they wouldn't keep it solely for themselves but would publish it once its performance had been tested and validated.

4 One of AVFloss' "travel companions" is called Blender, a free, open-source audiovisual creation program that enables modelling and animation of 3D images. It's a cross-platform software, which is very important to the group because they don't want anyone to be excluded due to the type of equipment they have.

5 A clip of the performance can be watched at https://www.youtube.com/watch?v=9P7jEcuUuGs.

A body inside another body

For AVFloss, 2017 was the year of Processing[6], the free software for visual artists that the group was determined to master. That's what they were working on when they were invited by the Experimenta Distrito open call programme to do something special for the Experimenta Fuencarral closing celebration, held on 18 June at the Playa Gata self-managed social centre[7]. They suggested a family portrait. Obviously, it wouldn't be a simple photograph. The picture would be pixelated like a mosaic, where each tile would be a photo taken at an earlier date. "It would be an image inside another image, like a metaphor for neighbourhood work: little actions inside other, bigger actions", explains Julián. It was called "Pixélate" ("Pixelate Yourself"), and four of them worked to create it, building on a preexisting project[8]. It was a success that is remembered by many, and it also captured the fun of working together and the final sense of achievement you get from working on processes that involve group work like Experimenta Distrito.

The third action that year was the most ambitious. It took place in October. The group was invited by Grigri Pixel – a festival that promotes civic and cultural cooperation between Africa and Europe – to collaborate with artist Bay Dam, who is also the developer of the MapMap video mapping software. "It was our first contact with a development community", remembers Julián, who made it one of their objectives not only to produce content, but to make a contribution. If the free software community were a big city where everyone interacted based on common principles, there would be other smaller communities within that city, families united with a common aim: to create and develop something specific, like a language or program. And it's with different families, depending on their individual interests, that AVFloss wants to interact, to ensure it doesn't end up an isolated being in the corner of a big building in the centre of Madrid.

Fernando: "I have a better time than if I were doing a video mapping installation alone, no matter how good it might be. You put it there, you twiddle your thumbs a bit and you say, "how nice", whereas when you do it with others it's a richer, more valuable experience"

Fewer people were involved in previous productions, but everyone contributed this time, as in addition to the artistic action a MapMap workshop was held, coordinated by Eva and Luis, and there was also a hackathon devoted to developing said program, in which some of its bugs or malfunctions were fixed. Some of the workshop participants contributed, alongside AVFloss and Bay Dam, to creating the performance piece "Madrugada" (Early Morning), in which content was projected onto a structure in EVA (Arganzuela Neighbourhood Space) – a former fruit market in the district of Arganzuela – to create a tunnel of images conveying the power of collaboration and the freedom of creation.

"Things are achieved when you join forces; it's hard for us to do it alone", says Julián. This sentiment is reflected in the evolution of the group, which has a reputation for forging connections. "Collaboration is an integral part of the free software philosophy", stresses Eva. "We've always positioned ourselves there, which is why it's the most natural thing for us to do". Fernando, who has also been part of the group since its creation, points out

6 Processing is more than a program, it's a language and development environment based on a simplified version of Java that enables visual artists and designers to learn to program and use code as an expressive medium. Medialab Prado took part in Processing Community Day along with communities all over the world, holding workshops and conferences.

7 Playa Gata is a social centre ceded to various associations and groups by Madrid City Council. It is located in the district of Fuencarral-El Pardo, in north Madrid. Its motto is "the laboratory as a neighbourhood".

8 Pixélate's development basis was a small project created by well-known educator and Processing promoter Daniel Shiffman for an event called Obamathon, a "hackathon" (where programmers come together to develop something in record time) aimed at developing creative projects using downloadable material provided by the White House.

that collaboration is also "more fun". "I have a better time than if I were doing a video mapping installation alone, no matter how good it might be. You put it there, you twiddle your thumbs a bit and you say, "how nice", whereas when you do it with others it's a richer, more valuable experience". "The idea of collective intelligence has always inspired us, and when it works, the results surprise everybody", says Eva.

Despite this faith in the power and meaning of processes, the group is missing the artistic production pace of 2017. "We often end up stuck in the process of 'how do we do this?', 'will this tool work for us?' or 'will we be able to install it?' We go down a lot of roads that lead to dead ends", says Eva. "We're convinced of the value of processes, but they end up remaining more internal than I would like, and the truth is that we also need an end product that we can present to the outside world".

Invisible cities await us

In addition to increasing its collaboration and production, to turn its investment in procedures into something tangible the group has set itself the objective of learning to improve its self-documenting, to which end it is studying various tools. It is doing so in a timeline format, using the tool that Medialab provides on its website for all groups and projects, but also with its own vernacular: the audiovisual language. Antonio suggests that "when someone is explaining something to the group, software should be used to record what appears on the screen" in order to be able to "create a video summary" that can be shared, aiming to make it simple and straightforward at all times.

Eva: "With the demands that exist in this production system, it seems quite healthy to focus on the learning process: sharing, creating workflows with tools that we like and view as much fairer and more important on a social level"

When the group expanded to include Antonio, a whirlwind of energy who quotes Italo Calvino at the drop of a hat ("I like that moment when you have infinite possibilities of things to do, you're on the mountaintop and could fall any which way"), it spurred them to investigate 3D modelling, a technique in which they have a keen interest. On the night they make and share all of these self-reflections, in addition to turning up bearing cameras and lenses they've also brought stickers and markers. They want to try creating a face using Blender. What they'll do with it, they're still not sure, but they're starting to get the feeling that they'd like to do this tracking in real time. The whole group is excited to learn something it's unfamiliar with, despite concerns over not knowing what to do with it. They note – perhaps as an idea, perhaps as a warning – the dangers of deepfake, a malicious technique used to falsify a person's identity. They offer up idea after idea. "It's complex and slow-going, but we're motivated", says Julian. "And if we figure it out, we'll have to sit down and discuss a narrative that will give it meaning".

Antonio, who is keen to record a support video for the community of Canary Island educators he comes from, offers to be the model onto whose face they place the set of points needed by the algorithm to generate a face.

They paint a whole mess of rubella-like black spots on his face. If this test turns out well, the video can be used for some cause or another. Everything is put to good use, even learning processes. They record a couple of tests, but there's no time for more because an old acquaintance from the FabLab, Carles Gutiérrez, appears and invites them to collaborate on an artistic project. Carles is going to exhibit a 3D-printed replica of a corbel from the façade of his local City Council in Cervera. Would AVFloss want to create video mapping content to project onto a corbel, in the form of a cat? Of course they would!

AVFloss is a place of resistance; a space to fight against the titans of the proprietary, the private and the privatised. It's a battlefield where the weapons are the tools that defend users' freedom; not only that of those using them at that specific time, but the freedom of each and every one of us.

Wikiesfera

An open "garage" to combat the Wikipedia gender gap
Silvia Nanclares

Now, we'll take a look at one of the most cohesive working groups, and one of those with the broadest inter-institutional scope, of all those that inhabit Medialab Prado: Wikiesfera (Wikisphere), a community that works in Wikipedia's "back shop" to put the brakes on its ingrained male-centred attitudes and to increase the visibility of knowledge generated by women.

Repairing Wikipedia's gender gap

If Wikipedia was a vehicle, which – as the world's most frequently used online encyclopaedia – it is, a vehicle of knowledge, it wouldn't pass the gender road worthiness test. According to online studies and percentage data used by Wikipedia itself, just 13% of editors (people who can create and improve articles) are women. Of the seventy-three librarians (a type of user with special permissions, such as deleting pages) who work in Spanish, only seven are women. But it's not just a question of numbers. Quantitative analysis shows that this gender bias and the resulting exclusion of women from Wikipedia stem from multiple factors (a user-unfriendly editing interface, aggression during discussions, a sexist and even misogynist environment, a lack of free time and scant social interaction on projects), and that all of this ends up directly affecting the site's content[1]. To mend this gap, the Wikiesfera Grupo de Usuarixs (Wikiesfera User Group) holds weekly meetings at Medialab Prado as well as other activities on a regular basis. In its name, the group took the innovative step of using a non-gender-specific x rather than the masculine-gendered o that would be used to form the plural of "user" in standard Spanish grammar. This declaration of linguistic intent was the brainchild of journalist Patricia Horrillo[2].

This "garage" devoted to tuning up Wikipedia is open to anyone who wants to drop in. And that's precisely what I did, one afternoon this spring. Patricia's only instruction to me was: "Bring your laptop", reiterating a criterion for the group's meetings that makes it clear that a computer is the only thing you need to start learning how Wikipedia works and to make your first forays into editing. Not only is a laptop essential, but the others in the group will let you sit beside them and share one. Today, they're celebrating the first anniversary of Wikimedia Foundation's certification of the group as a permanent learning community "that manages to incorporate new male and female editors and publish dozens of new articles on Wikipedia"[3]. Far from gloating about their endorsement by the digital institution of encyclopaedists, however, they get down to business. There's work to do. More specifically, as someone sharing the link to the pad[4] reminds us, there are articles to be reviewed from the last *editatona*[5] (women's only edit-a-thon) on 26 April 2019, Lesbian Visibility Day. There's a palpable feeling of camaraderie in the air. Wikiesfera is a community, a working group, an editing group. Above all, though, it puts into practice the maxim that a handful of people can bring about change through small acts. Here, they're changing Wikipedia.

Snacks, music and editing

Although the main aim of this project is very clear (to increase diversity among editors in order to narrow the various gaps resulting from issues such as gender or ethnocentric viewpoints), one of the pillars of its community dynamic is nurturing interaction between the people who take part, whether they do so on a regular basis or, like me today, on specific occasions. And, like any good feminist project, relationships take centre stage. The warm welcome you receive is one of the first incentives for you

to stay and join the effort. So if you're at Medialab Prado on a Monday afternoon, in Sala B on the first floor you'll see a group of people, mainly (but not only) women, typing on their laptops, listening to music and laughing, with some sweets or chocolates close by (today Patri has brought treats from her last trip to Ecuador, where she was part of an international project called Nos Tomamos la Wiki (We're Taking the Wiki) that strives to incorporate new female editors from indigenous peoples and nationalities with the aim of decolonialising Wikipedia). Make no mistake, you've found the garage. Today, exceptionally, they are in the lab on the first floor, as their regular space is being soundproofed. Some people are missing it, because, as Bea tells me, "We've got our own space there, with our music…". She's a professional translator, and today she's finishing off an article on Harmony Hammond, a lesbian sculptor and pioneer of feminist art whose name came up at the last *editatona*, where a good number of articles on lesbian artists were created. One of the articles Bea had a hand in was the one on Concha Fernández-Luna (Spanish National Translation Award). She says her work is modest, invisible. But not, I think, insignificant. How like us women to doubt our legitimacy and authorship. That's why spaces like this are vital in order to build confidence and take the floor.

Just 13% of Wikipedia's editors are women. But it's not just a question of numbers. Quantitative analysis shows that the gender gap stems from multiple factors and ends up directly affecting content

I flit from one workstation to the next, gradually adapting to the environment around me. First of all, they use jargon: in addition to the more comprehensible terms "librarians" and "editors", they speak of "Wikipediholics", or compulsive editing, catalogued by the Department of Fun ("Yes, there are lots of odd bods on Wikipedia and they've gone so far as to create this department", they laugh as they tell me)[6]. But yes, the Wikipedia editing bug does exist. And it's contagious. "You end up editing on the bus, using your mobile phone, just everywhere", say Elena and Celia, who are sat beside each other. They've both been regular participants in the group for over a year. Elena found out about it during an equality course, when the teacher spoke about the project. Celia, meanwhile, is a secondary school teacher who was tired of never seeing women's names in the textbooks used for Language and Literature, the subject she teaches. Elena is proud of the article on children's book author Victoria Pérez Escrivá, about whom, incomprehensibly, there was no article on the digital encyclopaedia until now. Both women are motivated by a desire to narrow the gender gap, although each goes about it in her own way as part of Wikiesfera: Elena is a big fan of Hungarian literature, and now she's creating an article on Zhivka Baltadzhieva, a Hungarian poet who has been living in Spain for years. Incredibly, there isn't a Spanish-language article on her, either. Both women look highly satisfied with the invisible work they're doing in Wikipedia's "back shop". That's what comes from feeling like you are part of a community, the pleasure of sharing a common code and physical and virtual spaces like those that Wikiesfera offers. Patricia reminds the group that there are still articles to finish for the list of cryptanalysts they put together at a previous meeting. And they need to check the pad and the shared list emails again.

6 For information on "Wikipediholics", see https://es.wikipedia.org/wiki/Wikipedia:S%C3%ADndrome_del_wikipedista. The Department of Fun is a non-encyclopaedic institution that classifies humorous content created on Wikipedia: https://es.wikipedia.org/wiki/Wikipedia:Departamento_de_diversión.

Multiple questions spring to mind as I delve into the complex world of this group and its casual dynamics. For instance, what is the structure of Wikipedia's "hierarchy" or, in other words, who decides what is relevant? What checks are in place in this regard, and what is this digital *taller* (workshop) they keep talking about…? I sit with Pura and I begin to understand. Right now, she's busy with a translation that some Wikipedia editors have rejected, saying it failed to meet the minimum standard. Her article is now provisionally in their taller, or workshop, which is the name of the space where each article is placed on hold until improvements are made to it. That was one of Pura's motivations for joining this working group, which she found out about on Medialab Prado's Facebook page. She thought she'd be able to gain familiarity with Wikipedia's inner workings and how its data is structured. She wasn't wrong. Both Celia and Elena say that articles written by or about women are often judged more harshly than others. "There are issues, like the harassment of female editors, which still need some work", they comment. It's evident that ingrained male chauvinist attitudes exist in the discussion groups that decide whether articles are acceptable, as they do everywhere. And that a lot of work remains to be done to in this area.

One of the group's earliest members, Encina Villanueva, explains what they do in Wikiesfera to me with all the succinctness of a newspaper headline: "We post and improve female content on Wikipedia". Encina, who teaches feminist art and whose editor username is @encina_waslala, joined Wikiesfera in 2016 during one of the very first *editatonas*, which was devoted to women photographers. Encina's continuous work at Wikiesfera has given her a greater appreciation for Wikipedia's authority, as she now knows just how stringent its editing processes are. Her specific work consists of redressing gender imbalances in highly skewed articles. For example, in an article on Surrealism she deemed it was fairer to mention Marie Blanchard at the beginning of the text. Similarly, in articles that discuss a couple of artists, she believes it's necessary to work on issues like how much information is given about each of them, and in articles that mention influences such as one's mother or father, she checks what order they appear in. Encina gives an apt assessment of what causes these imbalances: "It's called bias. Perspective bias". She also notes that one of the secrets of the group's vitality – and one of the nicest things about this community, as other users agree – is that the commitment is very flexible and is based on your own wishes; there's no penalisation for non-attendance, which, strangely enough, intensifies their bond. It's a veritable secret ingredient for the continued existence of a community.

Editatonas, women's only Wikipedia editing marathons, are one of this community's most important events

Before the session ends, Paz turns up, looking somewhat hurried. The rest of the group applauds. She hasn't come for days and seems to be one of the group's most beloved members, one of those people with a gift for bringing everyone together. Paz Castro is an entrepreneur who realised the potential of the Wikiesfera project very early on, and thus enthusiastically joined its ranks. After many unfruitful experiences with editors who vetoed her articles on businesswomen, she learnt how to make them unimpeachable in terms of form, culminating in her happy contribution to

building a more inclusive Wikipedia, which is what, in a nutshell, the entire group is committed to. The truth is that it's a very appealing idea to be part of this, to wade through the entrails of a tool that's used on such a massive scale that we run the risk of normalising it and not realising that every one of us can contribute to increasing its accuracy and ability to embrace diversity. Today, I realised that examining Wikipedia from a gender-based perspective reveals at once myriad inequalities and forces for change. I ask how it would be possible to take part if you don't live in Madrid or if, like me, you can't attend as often as you'd like due to time constraints. A high degree of involvement in multiple tasks, including the provision of care, is another proven reason why there aren't more women contributing to Wikipedia. Through practice, we continue to unravel the mystery of Wikipedia's gender bias.

Patricia explains how, in addition to the aforementioned Monday meetings and direct participation by attendees, there are also other in-person events to take part in, such as occasional gatherings to edit specific content and the famous *editatonas,* which are both held with varying frequency. The *editatonas,* one of the community's most important events and the one that draws the most interested women, are Wikipedia editing marathons which also vary in terms of duration, but are always very intensive. These marathons are approached from a gender perspective with the aim of redressing the biases in the free encyclopaedia that have been identified to date by Wikiesfera. The aim is to extend what has been tested by the group to the next layer of the community "onion", although its scope and ability to attract participants is often surprising. And there's no way to find out until the day of the event. They make announcements on networks, and except on rare occasions, they usually result in a large turnout. In any event, these invitations aren't aimed solely at expanding the community's numbers. At their gatherings, they seek to put the community's collaborative learning into practice, broadening its sphere of impact through both content and modus operandi.

For Encina, one of the group's members, working continuously at Wikiesfera has given her a greater appreciation for Wikipedia's authority, as she now knows just how stringent its editing processes are

A lot of other people participate in Wikiesfera via digital channels. There's the mailing list, a dynamic group tool with over two hundred subscribers, a number that is constantly growing. There are also the pads, where tasks and articles that are underway or pending are recorded, and there are profiles on networks where users can follow the community's meetings and progress. Its activity is infectious; it's so easy to catch the bug. Anyone who tries it could get hooked. And that's one of the best things that you can say about a community.

Mater mechanics

On another one of the days that I meet with Patri, the heart and soul of the project, to find out more about Wikiesfera, we are joined by *El País* journalist Pepo Jiménez. He is working on a special multimedia piece about Wikiesfera[7]. Patricia gets excited during the interview, remembering her recent stay in Ecuador for the international project Nos Tomamos la Wiki, where an editing community was launched in Quito. "I learnt so much", she tells me, "after stripping myself of layers and layers of mental colonialism, of course". She returned from Ecuador having discovered that she loved education, and with renewed energy to continue her fight to achieve a more transversal perspective on Wikipedia, a fight that might bring an end to intersectional biases, which of course include gender bias. She also returned with the feeling that the project can be scaled up, not just geographically, as was the case with Ecuador, but through new and different implementations. "Is this the most important project of your life?", asks Pepo. For the second time, the interviewer hits the nail on the head. "Maybe it is. Yes. The most important project of my life: meeting and giving visibility to women within digital culture, more specifically, via Wikipedia". Next, she'd like to be able to expand the core structure to share duties associated with coordinating this community, which is growing slowly but surely, and unstoppably. She'd also like to have more material resources in Medialab Prado, such as laptops for those who don't have their own, or signs that provide information on the activities of permanent groups in greater detail than simply specifying their meeting times. I'm glad to see her so motivated, with a desire to learn and keep growing; today I join them to celebrate this project which I've actually watched grow from the time it was just a seedling, and I worked with her to promote mediation at Medialab Prado four years ago. That seedling is now bearing fruit.

7 See Lucía Martín (in Spanish), "Tú también puedes escribir la historia", in *El País,* 17 June 2019: https://elpais.com/ sociedad/2019/06/13/ pienso_luego_ac tuo/1560443886_740954. html.

Juego de Troncos

The long life of what once were trees
Elena Cabrera

What?
Juego de Troncos is devoted to the reuse of discarded wood from municipal felling to create useful objects in public spaces for educational purposes. It is a working group attached to PrototipaLab, a laboratory that experiments with digital production and design using free, open-source tools. The progress made by the group takes the form of three lines of action: craftsmanship, urban biodiversity (through design and production of nesting boxes, insect hotels and feeders) and political dialogue. They aim to negotiate a protocol for reuse of felling and pruning waste with Madrid City Council. Once this agreement is achieved, they will know that they have created a model that can be reproduced in other municipalities.

When?
Established as a Medialab group in March 2019, it actually originated as a project submitted to the Experimenta Distrito open call in 2017, under the name Jugando con Troncos (Playing with Trunks). They changed their name upon recognising the humour of a pop culture reference to *Game of Thrones (Juego de Tronos)*, at the height of the TV show's popularity. The group meets once a week.

Where?
One week in Medialab Prado and another in La Cabaña del Retiro, an ecological interpretation space and urban vegetable garden in El Retiro Park.

Who?
The group's ten members consist of professionals and enthusiasts alike, including nature lovers and people interested in urban vegetable gardens and industrial design.

Additional information
Reference websites:
https://www.experimentadistrito.net/jugando-con-troncos
https://www.medialab-prado.es/proyectos/juego-de-troncos
Project report (in Spanish) from the Experimenta Distrito programme:
http://www.experimentadistrito.net/wp-content/uploads/2017/08/Memoria_Juegando-con-troncos_Experimenta-Distrito.pdf

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In the end, we sit wherever there's space. But it's not the same. It's not the same to sit on a mass-produced plastic chair as it is to sit on a tree trunk, smoothed by contact and the passage of time, organic and, in a way, alive, full of history and memory.

Wood speaks. Or so woodworkers say. Despite being inert organic matter, the inanimate remains of a once-living organism, the slow and infinite echo of life in its last breath clings to the trunk. When we sit on it, what we feel is the vibration, soft and latent, of the tree it used to be.

In wild, forested areas, it's nature itself that cuts off branches which fall to the ground. It's nature that topples rotten trees which, after falling, carpet the land and, as the years slowly pass, produce a compost that nourishes the forest and gives rise to new trees. But in the city, the by-product of controlled felling bounces off the pavement in a terrible motion, like a fallen angel, with a snapping noise that's drowned out by the motor of the saw. Quickly, those trunks are thrown into a truck that drives them away; no one really knows where to.

If it were a person, the group Juego de Troncos (Game of Trunks) would be someone who remains rooted there on the pavement, watching the truck wistfully as it drives off, wondering where it will go while looking for a place to sit for a moment. After resting for a while, idly watching life pass by, that person stands up and starts walking, unhurriedly, to the edge of the city. Suddenly, a smell rouses them from their dreamy state. Their wanderings have brought them to the growing mound of a rubbish dump. Surprised, they recognise the dumper truck that they noticed hours before, unloading the useless cuttings onto a heap of rubbish. The person approaches the truck. The person doesn't understand at all.

And now, their watch has ended

This imaginary person could have been Daniel, but also Félix, Nuria, Gina or countless others. It's precisely what happened to him in Madrid's biggest park, where he worked as a teacher in the "ecological classroom" La Cabaña del Retiro. While watching the gardeners cutting down trees, he began to ask himself some questions. Around that time, in spring 2017, Daniel found out that Medialab Prado, in collaboration with other departments of Madrid City Council, would be launching a call for projects for Experimenta Retiro[1], a forum for lab-style experimentation with ideas to serve the common good and enable local residents to take part in developing the neighbourhood. Daniel began to imagine the number of things that could be done with that wood that was being thrown away. He spoke about it with his urban vegetable garden students. One of them, Félix Sánchez, shared his concerns and decided to submit a project to Experimenta Distrito.

Félix belonged to AFA Montserrat, an association for the families of students at Colegio Montserrat, which also has a fertile garden. He connected a few dots, which is ultimately how you form a network. He thought of the boys and girls, he thought of the school's playground, he thought of wasted wood. When he put forward his project, they asked him why it was important to carry it out. He wrote: "To make school playgrounds (and other spaces) more natural", and also "to recycle a precious, public material like the pine and cedar in our parks, which is being thrown into rubbish dumps". He came up with a prototype that would forge connections and could be reproduced. After talking to carpenters, architects, students, horticulturists and gardeners, Félix drafted his proposal and it was accepted.

[1] Retiro Experimenta is the branch of Experimenta Distrito that operates in the Retiro administrative district of Madrid city centre, which includes the large historic park Jardines del Buen Retiro. For more information on Experimenta Distrito, see the Puente de Vallecas Experimenta case study.

Then, on an exceptional basis, he managed to obtain several logs from the municipal depot of the Migas Calientes nursery that were going to be thrown away. It wasn't easy. The 200-year-old establishment, known as Viveros de la Villa, not only plants trees but also transforms plant waste from maintenance work on Madrid's public gardens into compost or wood chip mulch, which is found with growing frequency in tree pits. The precious nature – to reuse Félix's term – of this wood means that it often doesn't deserve such an end, but rather a second shot at life. During that edition of Experimenta Distrito, the members of Jugando con Troncos ("Playing with Trunks", the project's name before becoming a permanent Medialab working group with the more effective name of Juego de Troncos, or "Game of Trunks") cut, sanded polished and varnished until they had versatile structures to be used as both play elements and seats, anchored to the playground of Colegio Montserrat.

Winter is coming

Retiro Experimenta ended, leaving Félix, Daniel and the rest of the participants bereft, as they recall. Until 9 February 2018. That was the day when Cecilia Barriga's documentary *Experimento Distrito. Muchas formas de hacer barrio* was released. It was screened in Cineteca film archive at Matadero Madrid with a certain degree of institutional pomp; showings were attended by many of the over four hundred people who took part in the programme as well as its creators. Félix and Daniel went to see it. During the film, one of the interviewees says: "Although in principle it's no more than a

seed, I believe it will put down roots and grow a strong trunk". Perhaps that analogy sparked something inside them, as they sat there in the audience. There was an open round of questions, and they both stood up. "We had the presence of mind to ask them face to face what would become of us", remembers Daniel, "that's it's all well and good to launch a project, but what happens later, how do we follow through with it?" The answer was polite, but vague. "But we didn't lose heart there, we kept going".

Unsure exactly why they were doing it, they continued to amass wood in some of the areas where La Cabaña del Retiro operated. They were able to hold onto tree trunks, but not people. Some of them found work and left. Others simply grew discouraged.

Why didn't Félix and Daniel walk away, if there was actually anything to walk away from? It was because of their emotional involvement, their connection with the wood, which still spoke to them, waiting for them with the patience that only someone who has lived a hundred years can have. The driftwood that Daniel and Félix's dream had become took an unexpected turn and began to swim against the current the day that Daniel Pietrosemoli, coordinator of the FabLab at Medialab, encouraged them to submit the project in the form of a working group.

Daniel began to imagine the number of things that could be done with that wood that was being thrown away. He spoke about it with his urban vegetable garden students. One of them shared his concerns and decided to submit a project to Experimenta Distrito

And that is the second life of the tree called Juego de Troncos.

Sunday morning. Spring. El Retiro Park. Félix starts up a noisy contraption that drowns out the pleasant chirping of the many birds. He puts on his goggles and starts to use the sander. Absorbed in his work, he begins to sing. Núria picks up her paintbrush and stops to watch without him realising. She laughs, but Félix can't hear her. He's too far away.

Their meetings alternate between Medialab and El Retiro Park. In winter, it's nice to be in the Serrería Belga (The Belgian Sawmill), the headquarters of Medialab Prado, but on a sunny morning like today, there's no better place in Madrid than this. "You lose yourself", says Núria, "it's like painting or dancing, you go into a trance". Félix turns off the machine. "No more noise today", he says.

Gina attaches a wire to a circular slice of wood with the bark still on. Nobody had thought of turning these scraps into lamps. Gina hadn't either, until the wood somehow lent itself to it. "The beautiful thing is that from a tree trunk you can get a variety of items that you can use any way you want, like lamps, a clock or a cradle for your mobile phone or tablet; it's so versatile, it's incredible", she says excitedly as she strokes a smooth block that has been sanded several times and finished with multiple layers of linseed oil.

Kissed by fire

People who come out to play with trunks bring ideas from home and, soon after, fail spectacularly when they realise that the wood is going to play at whatever it wants. That's why you need to listen before taking decisions.

Juego de Troncos' methodology reflects the same philosophy that would pit Do It With Others (DIWO) –or, as they say in Spanish, "You can't do it alone, but with friends, you can"– against Do It Yourself (DIY)

That is, perhaps, one of the key lessons. Although the group has solid approaches, namely three areas of research and work (craftsmanship, industrial design and political activism), there's a single force that drives them each day: playing. They say wood makes them feel like children who throw themselves wholeheartedly into a recess that starts here but has no limit. It's not a game that you win or lose, it's a game of sitting down and saying, "It's so nice here." Good and bad don't matter here, either. They don't aspire to be professional carpenters or furniture makers. What's more, they like boasting about how badly they work the wood. "We don't follow steps. If someone tells us, "That's not how you do that", we try their method and see if it works for us, or if we'll keep doing it our own way. Not having prior training allows us to make mistakes freely with no fear of looking foolish," says Félix.

Juego de Troncos' methodology reflects the same philosophy that would pit Do It With Others (DIWO) –or, as they say in Spanish, "You can't do it alone, but with friends, you can"– against Do It Yourself (DIY). It's also in no way a disadvantage to be an amateur in this group. Rather, they value the way it opens the door to creativity and imagination. Through this lens, what others would consider a mistake, defect or deformity is appreciated by and stands out within the group. One of Gina's lamps has some curious holes that have been blackened by varnish. "They tell the story that a bug came, made a place for itself and left some grooves carved into the wood. It's nice to show that off and not hide it, to leave it on display so that it forms part of that wood; they've become one. It's real, and it highlights the beauty of the moment when the termite came to invade the tree trunk. It fires the imagination".

Self-documenting of processes is important to every Medialab group, with the aim of transporting knowledge into the future in a way that's open and replicable. For Juego de Troncos, documenting, memory and history play a key role, as the group aims to extract information based on the interaction of different "languages" between plant species and human beings. "What we like about the wood we work is that we know its origin and its history", says Félix. A Cuban artist made a sculpture with some wood that had been thrown away by a hotel in Calle Santa Isabel. Some narrow logs come from cedars in El Retiro Park whose exact location they know. "We like it when that emotional or spiritual connection with the living organism the wood comes from is preserved", they say. That's why, when they make a gift of a piece to a school or public neighbourhood space, they tell them the story of where it came from, so that they in turn can pass it on. For the group, it's not always necessary to carve the wood's origin into the wood itself, but rather, "to carve it into memory". "Just as this group operates through a lot of personal contact, we believe that contact can be continued through our pieces". That's because they always forge some kind of friendship or connection that acts as a conduit for the transmission of memory. "In addition to lowering the carbon footprint, we increase the material's emotional footprint", says Félix.

The group has strong political beliefs, rooted in championing the

commons, such as our trees, water and the air that we breathe. It is thus particularly concerned with ensuring that what leaves the commons doesn't end up on private property. Selling pieces or placing them inside an office runs counter to the essential spirit of trees or wood. Theirs is a small-scale but important resistance against the industry that would appropriate natural resources.

In view of this, their areas of work include developing the initial mo-

Félix: "In addition to lowering the carbon footprint, we increase the material's emotional footprint"

tivation that inspired Daniel and Félix when they first saw that truck driving away. "People are very good at handling anything to do with development, but when death strikes, we look the other way", says Daniel. People think that something that has died is gone, but that's not the case; once this wood is dead it continues to offer something to society. We bring that energy to wherever we believe it's needed". You simply need to observe a 150-year-old tree trunk and read its rings, tilted to the side on which the sun hit the plant, interrupted by bird pecks or attacks by the fearsome woodworm, the fungi that infected its sapwood or the round, dark beauty of its heartwood.

The project considers the life after a tree's death not only in terms of forensics, but also from an administrative perspective. What is waste and what are goods? What rights do citizens have over the commons? How can city councils distinguish collective interests from private interests? "We want a protocol to be created", explains Daniel, "so that logs that can't be sold aren't thrown away, so that they're kept and people are given the

option of working with that wood". It isn't just an ecosystem of altruistic social projects that Daniel is envisioning, but also what place –on the basis of equity and solidarity– such a protocol could occupy in the market economy. "Unemployed people, for instance, who could work with this wood and make a financial profit, or whom the city council could hire or perhaps pay to buy their pieces for parks". They know there are a thousand examples, but they can be summarised in a single idea: "We don't want this to end up the way it always does: with a large corporation that amasses all the logs and makes a big business out of it".

To get this protocol off the ground they need to speak to politicians, councillors and experts from the city council. They're already working on it. Being a Medialab Prado group smooths the path for them, as it gives them backing and representativeness that they lacked before, particularly with respect to Madrid City Council. They know that all bureaucratic processes move very slowly, but they've learnt to be patient.

BioCrea

A space for citizen science
Irene G. Rubio

At first glance, it looks like a cardboard square. Two, in fact: as you move closer, you realise that there's one square on top of another. They are attached by some metal legs that have cogwheels, also made of cardboard, which the kids turn to raise and lower the square on top. If you get even closer, you'll see that there's a small circle in the top square, made from a material that looks like glass. You'll also realise that under that glass circle there's a small tray and a tiny torch. The surprise comes when they place any object on the cardboard tray, take out their mobile phone, turn on the camera and place the phone's lens on the small glass circle, which is actually the lens of a laser pointer. Using the cogwheels to adjust the focal distance and illuminating the sample with the torch, things begin to appear on the screen of the mobile phone. That's how the cardboard microscopes developed by 16- and 17-year-old boys and girls in BioCrea workshops work.

Hamilton Mestizo: "BioCrea is a creation platform, a programme that allows people with an interest or a question on biology-related topics to meet in a space devoted to production, where they can create their own experiments"

The microscope is just one of the many experiments and prototypes conducted and produced by students from Gómez Moreno secondary school in the San Blas neighbourhood. It all began in October 2018, when Isabel Blázquez, a biology teacher at the school, took part in a citizen science seminar sponsored by Medialab Prado at Las Acacias Regional Centre for Innovation and Training (CRIF), run by Madrid's regional government. The seminar was attended by several people from the Medialab team, including artist Hamilton Mestizo and researcher and mediator Silvia Teixeira. The teachers in attendance were invited to participate in two of the centre's projects. One was Satélites DIY (DIY Satellites), coordinated by Teixeira[1], which is designing a sensor-based system to measure pollution and analyse Madrid's atmosphere. The other one, led by Mestizo, was BioCrea, a forum where art and design are used for biology-related experimentation, research and prototyping. Isabel accepted the challenge. She spoke to her colleague, Felipe Yebes, who teaches technology at the school, and they decided to take part with their students. In December they began to attend each week with boys and girls from the school, to put the theories they were learning in class into practice.

Students were divided into two teams: one participates in the Satélites DIY group and the other in the BioCrea creative biology lab. The latter group began to share ideas on what they would like to do that year. Topics such as growing and culturing microorganisms, genetic engineering[2] and working with biomaterials were discussed. It became evident, however, that to research these topics they would need lab materials and instruments that weren't available at their school. They therefore decided that their first step would be to build the necessary tools, and in December they set their hands to the task of making the cardboard microscope. The model for the Do It Yourself (DIY) microscope was provided by Mestizo, who had made the prototype before in a citizen lab in Medellín (Colombia). He gave them the instructions, and Medialab's FabLab furnished them with the tools to build

[1] The Satélites DIY project uses CanSats, simulations of real satellites that are the size of a soft drink can. More information at https://www.medialab-prado.es/actividades/satelites-diy-estudiemos-la-atmosfera-de-madrid.

[2] Genetic engineering is the manipulation of an organism's genes through biotechnological means, with the aim of modifying, removing or duplicating those genes.

What?
BioCrea is a space where art and design are used to experiment, research and create prototypes in areas relating to biology and biotechnology. It is currently coordinated by Colombian artist Hamilton Mestizo, who is supported by mediator Silvia Teixeira. Since its creation, it has had various stages and formats, and a large number of people and organisations have taken part in it: user communities, Medialab collaborators, mediation team members, staff from the centre, etc. BioCrea is part of the Citizen Science Lab (CiCiLab), which was coordinated from 2016 to 2019 by Chema Blanco at Medialab Prado. During that period, CiCiLab was part of the European Doing It Together Science (DITOs) network, funded by the H2020 programme.

When?
Since late 2018.
At present, its public activities are held on Thursday evenings.

Where?
Espacio MiniLab C in Medialab Prado.

Who?
BioCrea includes artists, science workers, university and secondary school students, and people interested in citizen science.

Additional information
Reference website:
https://www.medialab-prado.es/programas/biocrea-espacio-abierto-de-biologia-creativa
YouTube channel: https://www.youtube.com/channel/UCtKdIaBwOb2ekk_ix6GNAQQ
BioCrea presentation at "A Year in a Day 2019": https://www.youtube.com/watch?v=g8_RoOl95GQ

it. At the end of the workshop, there were enough microscopes that anyone who wanted could take one home and start analysing samples.

But they didn't stop there. The microscope worked well, but there were still some flaws to correct and the finishes had to be refined. After the Christmas holidays, the kids therefore decided to divide up into two groups. One would continue to work on the DIY microscope, perfecting it until it was a finished prototype. The aim was to share how to make it, so it could be reproduced in any secondary school or by anyone with an interest. This group also began to develop a more ambitious and powerful tool, an IP microscope that sends images to a computer over a WiFi network and uses a video projector to project an amplified image. The prototype was developed by the Hackteria DIY bioart and biology platform in 2009, and students from Gómez Moreno secondary school have worked to build and update it with more modern tools.

Chema Blanco: "Citizen science is the active participation of citizens in science. If, in our collective frame of reference, science is associated exclusively with large labs, research centres and specialised journals, this trend aims to open up and democratise access to science for all citizens, not just specialists"

Meanwhile, the second group decided to build another essential biology lab instrument, one which people had been trying to develop for years at the FabLab: an incubator. The prototype was given the name "Incubo" because its shape was reminiscent of a box or cube. The design process is still underway, as there are a number of challenges to overcome to make it work properly.

"We went to the science fair in the autumn, we took part in the 1st International Forum on Citizen Science[3] in March, and we're going to go to conferences. We want the kids to see what a research project is like, and we're even thinking that the results could be published in a specialised journal", says Isabel Blázquez. Although attendance at BioCrea is mandatory for several of the students, as it's part of the Technology syllabus, many are attending by choice because they've become hooked on the activity. "We wanted them to see something different: how a project is presented, how you work as a team and how tasks are distributed, and we wanted them to work with professionals, using tools and materials we weren't able to have at our school", explains Blázquez. "It's all about applying theory and putting it into practice". Hamilton Mestizo agrees with this assessment: "One of the most important things this has meant for the students is that they encounter a large amount of applied, transdisciplinary knowledge".

The Gómez Moreno secondary school group is just one example of the people who participate in BioCrea. The project, held from late 2018 to late 2019 with aspirations of continuing into the future, is part of the Citizen Science Lab (CiCiLab).

Initial steps: an open creation platform
BioCrea emerged in response to a demand that had been present for some time in the centre: creation of a Wet Lab. Just as there is already a FabLab, or digital fabrication laboratory, several users were calling for the creation of a lab where people could work with chemicals and organic matter.

An initial lab was launched as early as the 2009 edition of Interactivos?, inspired by the "garage science" philosophy of that year... in the men's lavatory on the premises of Medialab Prado[4]. Since the creation of that first improvised lab, projects that work with biology, art and technology have gained traction in the centre, and instruments for biology experiments have begun to be designed. At the 2013 Citizen Science Encounter[5], for example, a workshop was held to create spectrometers[6].

Between 2015 and 2018, the collaboration agreement between Medialab and the science department of La Caixa Social and Cultural Outreach Projects enabled further development of these focus areas. In 2015, Medialab hosted a DIY nanotechnology workshop[7] that taught participants to build a homemade version of an atomic force microscope (AFM), an instrument that enables visualisation beyond the micro scale of a typical microscope, down to the nano scale. In other words, if a light microscope enables visualisation of organic and inorganic samples at a resolution of 1 millimetre to 1 micrometre, atomic force microscopes provide vastly superior resolution (1/1,000,000 mm). The AFM microscopes found on the market are very expensive, but low-cost DIY versions can be created from reused parts. Thanks to this workshop, one of these microscopes –DIY, but functional– was added to the fledgling Medialab laboratory.

This DIY nanotechnology workshop was attended by Fran Quero, who was a biology student at the Complutense University (UCM) at the time. Along with other students, Quero had established the association OpenLab Madrid with the aim of starting to conduct experiments and research in a discipline that was only teaching them theory. They decided to create a citizen research lab. As the resources available to them were limited, they had to come up with ways to obtain instruments. The first option was to ask for donations from labs and universities, but once that channel had been exhausted, the next step was to begin to build the tools on their own. That's how they first arrived at Medialab.

The OpenLab team submitted the project MOLab (Making Our Lab) to Medialab, and it was selected for development in 2016. The proposal consisted of making a DIY incubator and improving the DIY atomic force microscope. Following this experience, Medialab reached an agreement with Fran Quero and OpenLab to begin the process of launching DIYBio, a DIY biology laboratory, which hosted a range of activities in 2017. Finally, in 2018 Hamilton Mestizo, who got involved with Medialab for the first time in 2010 when he submitted his project "Algas verdes" (Green Algae) to Interactivos?, took over the task of stimulating the lab's creativity.

In Mestizo's view, BioCrea's primary objective is to create an open research group, a space where people who share the same interests can organise themselves into groups. "BioCrea is a creation platform", says Mestizo, "a programme that allows people with an interest or a question on biology-related topics to meet in a space devoted to production, where they can create their own experiments". Mestizo sees the experience with the students from Gómez Moreno school as a great example of what BioCrea is trying to achieve. "When we speak of citizen science, that's precisely what we're referring to: citizens taking scientific instruments and making them their own".

3 The International Forum on Citizen Science was held on 21 and 22 March 2019, organised by the Ibercivis Foundation and the Spanish Foundation for Science and Technology (FECYT) in collaboration with Medialab's Citizen Science Lab. More information at https://ciencia-ciudadana.es/i-foro-internacional-ciencia-ciudadana-en-espana/.

4 Interactivos? is a programme that began in 2006. Every year it holds an international collaborative prototyping workshop that explores a range of topics through creative experimentation using free hardware and software tools: creative programming, graphic experimentation, interaction design, digital narratives, etc. More information on the programme at https://www.medialab-prado.es/programas/interactivos. The Hackteria group, made up of Andy Gracie, Marc Dusseiller and Yashas Shetty, was created at Interactivos? '09: Garage Science. Since then, Hackteria has been working to develop wiki-hosted resources for people who are interested in or are developing projects relating to bioart, open-source hardware or software, DIY biology or experiments in which art, biology and electronics come together. More information at https://www.hackteria.org/.

5 More information on this meeting at https://www.medialab-prado.es/actividades/encuentro-de-ciencia-ciudadana.

6 A spectrometer is an optical instrument used to measure properties of light over a specific portion of the electromagnetic spectrum. It allows us to determine a sample's composition to help identify a material, even planets and stars, by studying the light that reaches us from it.

7 The workshop was taught by En-Te Hwu from the Institute of Physics, attached to the Academia Sinica in Taipei (Taiwan), and by Daniel Lombraña, director of SciFabric, a startup that specialises in citizen science. More information at https://www.medialab-prado.es/actividades/taller-de-nanotecnologia-casera.

Another example is the project being developed by a group of researchers in collaboration with BioCrea, some of whom are former members of OpenLab Madrid. Their goal is to compete at iGEM (International Genetically Engineered Machine), the world's largest international synthetic biology competition, which is held annually in Boston (U.S.). Transdisciplinary teams from all over the world compete at the event, which was created in connection with the Massachusetts Institute of Technology (MIT). The teams develop and carry out scientific projects over the summer before travelling to Boston in autumn to present their results. The group's project, Aegis, uses molecules called aptamers[8] to create a kit that detects diarrhoeal diseases in water: cholera was their first target. But they went even further. Driven to understand the cholera problem, they established a partnership with the African Institute of Open Science & Hardware that saw them travel to Cameroon. Once there, they held workshops with the local population aimed at jointly designing a social and technological solution to cholera. The group used Medialab Prado's facilities to produce a large amount of the hardware and electronics used on the trip.

In the art world, there are also numerous artists who are experimenting with biology. Biomaterials are one example of the possibilities offered by this convergence of disciplines. They allow synthetic materials to be replaced with biological materials, fostering projects' sustainability through reuse and recycling. This makes it possible to create materials such as biotextiles or bioplastics from organic waste: food scraps, fruit peels, tree bark, etc. Working with biomaterials is another of the areas being developed this year in BioCrea, which hosted a workshop devoted to creating textiles from discarded mandarin peels.

Giving rise to encounters

BioCrea's ability to forge connections, cooperate with different people and give rise to encounters is another of the project's key aspects. In the spring Rosa Gálvez Esteban, a biologist and professor at the Autonomous University of Madrid (UAM), came to Medialab with a proposal. Gálvez studies phlebotomine sand flies, flying insects similar to mosquitoes whose bites transmit leishmaniasis. The disease mainly affects dogs, but it also affects humans, and it has a significant prevalence in the Region of Madrid. Gálvez has developed traps to catch the insects, enabling her to study which areas they reproduce in with a view to eventually drawing up a map of phlebotomine sand fly populations. The problem is that she needs to set a lot of traps to map a suitably expansive area, and the materials they are made with are very costly. Gálvez shared her research with Silvia Teixeira, and together they decided to solve the problem by putting it in the hands of BioCrea.

There, teachers and students from Gómez Moreno secondary school are helping her to improve the trap prototype. The original model has a battery-powered light that attracts the insects, a fan that traps them and a net that keeps them inside a receptacle. The students are trying to make the trap using recycled materials, enabling it to be produced at a low cost, and studying ways to improve its power source, as the initial prototype uses a very large, heavy battery. At the very first meeting between Gálvez, the students and their teachers, several ideas were offered on how to improve the trap. They discussed optimising the battery with a mechanism that would enable the light to turn on only during certain time windows.

Once the prototype has been improved, multiple traps will be built

8 Aptamers are DNA molecules that can be used to detect other molecules. They thus serve as biosensors.

and field work will be conducted to lay them in different areas. After samples have been collected, Gálvez will teach the kids to recognise sand flies among the insects that have been trapped, and to identify those which can transmit leishmaniasis. If this pilot project works, Gálvez intends to involve various schools so that they can lay traps in different parts of the Region of Madrid and carry out mapping on a collaborative basis.

From citizen science to biohacking

We have called BioCrea an example of citizen science, but what is that exactly? According to Chema Blanco, who coordinates the CiCiLab, "it is the active participation of citizens in science". If, in our collective frame of reference, science is associated exclusively with large labs, research centres and specialised journals, this trend aims to open up and democratise access to science for all citizens, not just specialists. Citizen science, explains Blanco, construes the practice in a broader sense, namely as the application of the scientific method, whether it is to generate new knowledge, produce novel results or improve the understanding of a given phenomenon.

CiCiLab aims to facilitate collaboration and encounter between professional science workers and people who are interested in the subject matter but aren't part of the academic or scientific world. One of the key lessons learnt in the lab has been the importance of listening to project participants and the tremendous rewards that come from involving them in (co-)designing a project, announcing its results and evaluating its impact[9], going beyond more reductionist views of citizen science that see citizens merely as volunteers who collect data for a project designed by a professional researcher. This is also in line with the Responsible Research and Innovation policies (RRI)[10] fostered by the European Commission.

Citizens' participation in scientific research enables them to raise new questions, acquire new knowledge and skills, and gain a deep familiarity with the scientific method in order to create a new scientific culture. As described

9 DITOs Consortium, *Doing It Together science: Good practices in participatory Environmental Sustainability*. UCL, Londres, 2019.

10 On the concept of responsible research and innovation, see the RRI Tools project: https://www.rri-tools.eu/ and the Wikipedia entry https://en.wikipedia.org/wiki/Responsible_Research_and_Innovation.

in the *White Paper on Citizen Science for Europe* (2016), "as a result of this open, networked and transdisciplinary scenario, science-society-policy interactions are improved, leading to more democratic research".

According to Daniel Lombraña and Antonio Lafuente, citizen science is "an entire constellation of activities that share the need to place local, minority and marginal issues in the laboratory space and at the heart of policy-making"[11]. In view of this, they have proposed the creation of a Citizen Science Office that will become "an instrument to select projects, channel resources, promote new paths of communication between citizens and scientists, train agents who can act as social mediators, open laboratory doors to participation and foster the governance of science"[12].

Various trends draw on the philosophy behind citizen science, aiming to democratise access to knowledge and narrow the gap between science workers and citizens. These include DIY biology or biohacking. "Just as digital fabrication entailed a pivotal leap in the early 21st century, offering tools that allowed anyone to create their own projects and prototypes (giving rise to 3D printers, the use of computing in manufacturing, open hardware like Arduino, etc.), a parallel trend emerged that began to approach biology along the same lines", says Mestizo. Digital fabrication allows anyone to build tools and instruments needed in biology, and enables low-cost labs to be set up. "Before then, the idea of practising biology outside of a specialised lab was a bit of a pipe dream, as you needed a large number of instruments that were hard to gain access to; it's a rather closed industry that involves patents, etc. Thanks to movements like "open source"[13] and digital fabrication, it's become possible to envision the appropriation of this knowledge by citizens and people who aren't directly connected to scientific labs".

Organisations such as DIYbio[14] or Hackteria offer a distributed and accessible version of biology by freeing technologies for use by citizens or building instruments from recycled electronics. "With one or two hundred euros, you can even make incubators, centrifuges or devices that use more specialised techniques, such as PCR (Polymerase Chain Reaction), which used to be impossible. Before, working with genetics was extremely expen-

11 "Oficina Nacional de Ciencia Ciudadana", in *La aventura de aprender*, https://www. rri-tools.eu/, and the Wikipedia entry https:// es.wikipedia.org/wiki/ Investigaci%C3%B3n_e_ Innovaci%C3%B3n_ Responsable.

12 Ibid.

13 On the concept of open source, see the AVFloss case study.

14 DIYbio (Do It Yourself biology) is an international community of biology enthusiasts or DIY biologists, created in 2008. More information at https:// diybio.org/.

sive, you had to be in a laboratory. Not anymore", says Mestizo.

In a sense, it travelled a path similar to that of the hacker and open-source software movements, aiming to make technology accessible to users to enable them to experiment, adapt and improve operating systems and programs. Just as the actions of hacker communities are governed by a hacker code of ethics, not everything is acceptable in the DIY biology movement. The people who practise it must adhere to a number of ethical principles[15]. These include transparency and sharing knowledge in compliance with open-access criteria, the need to use safe practices, the importance of listening to the community, respect for the environment, and accountability for work carried out.

15 A code of ethics was drawn up at the 2011 European DIYbio Congress. It can be viewed at https:// diybio.org/codes/draft-diybio-code-of-ethics-from-european-congress/.

Just as the actions of hacker communities are governed by a hacker code of ethics, not everything is acceptable in the DIY biology movement. The people who practise it must adhere to a number of ethical principles

This "opening" of laboratory doors has also enabled the entry of the artistic community, giving rise to bioart, a trend that explores the possibilities that biology brings to art through the cultivation of living tissue, genetics, biomechanical constructions or the artist's own body. Their artistic practices help raise questions on the limits and possibilities of new techniques to create, modify and reproduce life. It's a two-way relationship in which the boundaries between what constitutes art and what constitutes biology are blurred.

MadridForAll and GenZ

Global citizenship on the streets
Carolina León

MadridForAll

What
A mapping that lists free services available to refugees and migrants without resources in the city of Madrid. These are presented in a website showing all the available resources and how to access them, in a geolocated way and in several languages. As well as making it easier to access these services, the project seeks to make Madrid's solidarity more visible and to allow the various organisations and support groups that work with these collectives to communicate the services, experiences or products they offer, and to inform people who want to donate time or resources as to where and how they can go about it.

When
From April 2018.
The group meets every Tuesday from 10am to 2pm in Medialab.

Who
This initiative of the NGO Mundo en Movimiento (World in Movement) involves health and social workers, educational and cultural professionals and other volunteers.

Additional information
Reference website:
https://madridforall.org/
https://mundoenmovimiento.org/proyecto/madrid-for-all/
https://www.medialab-prado.es/actividades/madrid-all

GenZ

What
An open working group made up of teenagers from thirteen to nineteen years of age, members of the so-called Generation Z, who want to make themselves heard and cast off the stereotypes that are usually associated with people of their age. One of their objectives is to claim their rights as adolescents, so that their voice can be taken into account when political and social decisions are made that directly affect them. They also fight for the rights of other groups and they try to improve communication between the generations. Their work includes projects on various subjects, mainly based on the plastic and audiovisual arts. The group has created the AKA Family Game, a card game based on diverse families, which they use to give workshops on gender and sexual diversity.

When
From 2018.
The group meets every Friday from 6:30 to 9pm in Medialab.

Who
The group was initially set up by high school art students in Madrid.

Additional information
Reference website:
https://www.medialab-prado.es/actividades/genz
Twitter: @therealgenzeta
Instagram: @therealgenzeta
AKA Family Project: http://www.akafamilygame.com

Is a refugee camp somewhere on the border between Greece and Albania as good a place as any to get to know people and make friends? Probably not. And that's probably why the friendship that sprang up in 2016 among four people from Madrid who had travelled there to help other people who had lost everything is a particularly powerful bond that has driven them ever since then. "Anyone who's ever seen what goes on in the camps will never forget it...", say Berta, María and Miguel almost in unison, tripping over each other's words. Right from the word "go", I am struck by their ability to agree, to use the same words to describe or expand on what one of them has just said without contradicting each other. I am keen to know how the experience of the refugee camp changed the way the four of them look at the world or how it impacted on their consciousness, so much so that they actually set up a non-profit organization on their return to Madrid in early 2018: Mundo en Movimiento (World in Movement).

Their words and voices coincide on lots of occasions; for example, when they talk about the frustration that built up in them while they were working in the camp at the head of various humanitarian organisations whose rules they had to follow - they couldn't break them even though they could see other options. Following several tours of duty there, they all agree that they are part of the magma of NGO volunteers who are "fed up with waiting" for the European Union to actually fulfil its commitments: minimum and urgent measures are postponed time and time again. That's why they join the international Sick of Waiting initiative, which confronts the European Parliament with demonstrations in 40 cities at the end of September 2017. And on their return, they all agree: after years of working together in different organisations, with all they have seen and learnt in the field of cooperation, they all feel they have reached the end of an era. But if there's anything they are all in complete agreement on, it's that moment when they found themselves back in the capital: they could have given in to impotence or disorientation, but instead they felt the need to continue fostering changes that would lead to a "global citizenship".

In early 2018, María Paramés, Miguel Serrano, María Peñalosa and Berta de la Dehesa meet again, rekindle the bond, and set up Mundo en Movimiento. There are lots of things they are concerned about and their heads are buzzing with ideas on how they can channel them; they have enough experience and, above all, their aim is to devote their energy to projects that promote the idea of critical, alert, supportive, inclusive and diverse citizenship, where the only thing that's not welcome is discrimination. Running at different speeds, half a dozen projects begin to be defined: a socio-educational action with young people to question the "normality" in our environment, an information and opinion portal on human rights, a few plays, an investigation into the mental health of Saharawi refugees, a collaboration with other organisations, direct social action... It seems a pretty small team to accomplish everything at once. Although each line of work advances depending on what partnerships they are able to weave, right from the outset they try to be a driving force for change in migrants' living conditions.

During their previous trip, they had spent a few days in Athens. They found themselves in Khora House, a well-known social space where refugees, asylum seekers, men, women and children of a dozen nationalities turn up every day... Each and every one of them was welcomed with a brochure outlining the free services that newcomers could avail themselves of, offered by institutions or groups, in the city.

A little piece of paper

That piece of paper travelled all the way home with them, it got all crumpled up, it got lost when they moved, but the idea remained. "We'd seen it in Athens and in Berlin, it had to be possible in Madrid". The brochure served as a trigger.

In the first world contexts of this Europe in crisis, in our increasingly unmanageable cities, we tend to confuse value and price; public or private institutions tend to focus on "show business politics" and offer themselves to visitors as long as they bring their wallets with them; cities display their charms depending on where the passport comes from. But this description doesn't apply to every city, let alone to each city's entire population. Well do the four members of Mundo en Movimiento know this, because they have seen that citizens never fail to come up with solutions for those who have less than them or nothing at all, not even in the worst possible scenarios. That's why they know there is another city, perhaps below this one, more invisible or difficult to trace, that wants to help to offer a dignified life to everyone who lives in it, regardless of where they come from. That other city is strewn with hundreds of initiatives. All it takes is to put them all together in one place.

"A database of resources, based on open source, replicable, exportable, a digital tool, an information portal, an access point...", they enthuse. Shortly after they had set up Mundo en Movimiento, they began to give shape to the idea which officially goes by the name MadridForAll, even though they always refer to it as "the map". They already knew that unity is strength, that an associative fabric is nourished by individual energies and minuscule initiatives, which often find it extremely difficult to make contact with larger networks.

But all those solutions, aid and resources for people who come to the city and try to start a new life weren't accessible in one single space, not even in the social services databases. They realised that if a newcomer needed guidance on how to obtain primary health care or if someone else was looking for some free entertainment in Madrid, they would have to muster a great deal of research and search skills (not to mention a command of the language) to find what they needed without throwing their hands up in despair.

They took the idea to an event called Hack4Good, organised by Telefónica, which put developers in touch with social innovation initiatives. At the time, their "little piece of paper" was provisionally called "Madrid really welcomes you", and their idea caught the imagination of a team of computer scientists ("comolohaces" or "howyoudoits"), who set about writing a program for it. During that weekend they managed to build a prototype of the tool and it won a prize as the "best social inclusion web application". But it was no more than a skeleton with clothes on, one that needed a lot of fleshing out. That was far removed from anything they had imagined. The result was later taken up by a developer friend, Carlos García Rodríguez, who collaborates with the team from Switzerland in a pro bono manner.

Calling people, taking notes, consulting, collecting and confirming data, they gathered together all the resources that are freely available to migrants in the city, and fleshed out the tool

Some of Mundo en Movimiento's ideas were already underway and running at different speeds when, one day, they walked through the door of Medialab Prado. Call it intuition, call it curiosity... They stepped through the doors and the laboratory offered them a place to set up shop. Without further ado, they became a stable, albeit autonomous, working group and the collaborations began. Finding themselves in their own spaces, as each week went by, they delved deeper and deeper into "mapping": but although the computer tool was important, what was crucial was the information that was going to feed it. Calling people, taking notes, consulting, collecting and confirming data, they gathered together all the resources that are freely available to migrants in the city, and fleshed out the tool.

The "mapping" grew and grew over the course of a year, although they are by no means satisfied. They estimate that they have managed to count the resources offered by sixty-five organisations and that there could well be as many as four hundred. The welcoming and supportive "global citizenship" is out there, waiting to be mapped.

Meanwhile, living at Medialab Prado for the last year and a half has sown the seeds for other things. It has served to make people curious to know that's going on, people who often volunteer (there are now more than thirty), and also to make contact with other resident projects. For example, they found they were in tune with The Things Network[1], and the team was able to turn to Mundo en Movimiento to participate in the Master's Degree in Migration offered by Ciecode[2] at the Comillas Pontifical University in 2019, when they were invited to present their experiences in a talk. They also found they had lots of points in common with Grigri Pixel[3] and they are looking forward to bringing one on board for future development. The synergies spring up all

[1] The Things Network is a research community, a working group at Medialab Prado, that researches and works on the "internet of things" with LoRa communications technology. More information at https://www.thethingsnetwork.org/.

[2] Ciecode, Research Center for Coherence and Development Studies, is the think tank of the Salvador Soler Foundation. More information at https://www.ciecode.es/..

[3] Grigri Pixel is an initiative of Grigri Cultural Projects aimed at the collaborative manufacture of "magic objects" in urban spaces based on artistic practices and digital manufacturing of and from the African continent, which has held events both in Madrid and in Dakar, Niamey and other places. More information at http://grigripixel.com/.

by themselves, they say. But out of them all, there is one that has led to a connection akin to making friends while helping refugees…

And this, my friends, is also a family…

A group of high school students, in what in the UK would be the first year of their A-Levels in the arts, started turning up at Medialab at the beginning of the 2017-2018 school year, with a million concerns but no clear objective. They went by the name of GenZ. Paula, Lucía, Elisa, Nuria and Sandra, all sixteen years of age, heads in a whirl and eager to transform everything all at once: the ideas kept coming, they knew they wanted to tackle the issue of diversity, but where could they start? They were lucky enough to be able to rely on Marga F. Villaverde, a mediator at Medialab Prado, who took the MadridForAll project under her wing at the centre. These young women wanted to do things, and the team of social workers wanted to do something with young people. They met and they asked each other, "Shall we work together?". The answer was, "Yes, but what are we going to do?".

One day someone brought an old card game in. And the same thing happened that had happened with that little piece of paper: something material and simple triggered their imagination. The girls had probably never seen it before, but the "Happy Families from Seven Countries" deck of cards left its mark on a couple of generations. The deck, a Fournier brand product that was launched in the 1960s (and is still in print today), features seven families, each with six members: a grandfather, a grandmother, a father, a mother, a son and a daughter. I mean, it's all so binary, so stereotyped. Not only that, but the "families" are designed with clichéd outfits and activities to describe different ethnic groups: Tyroleans, Bantus, Mexicans, Arabs, American or Mexican Indians. Based on this discovery, the objective of the collaboration began to take shape: the project they would design, guided by Mundo en Movimiento, would be the "alternative family deck". They called it the AKA Family Game, "the game of the Also Known As families".

The students took their cards with them to liven up workshops in urban camps with children of different ages. As they played, they were encouraged to go further, thinking of new possibilities, of including more examples and realities. Each of the families worked as a trigger that sparked ideas, openness and relativization

Copying can always be a starting point for reinventing or remixing "normality". The GenZ girls enthusiastically threw themselves into the task of creating seven "families" or human (also non-human) groupings that would challenge the normative idea, and thus expand the notion of family. The goal was to include as much diversity as possible. They combined drawing, photography or collage techniques, they designed characters and they invented their stories, they put them in relation to one another and they placed these families in different parts of the world. The deck contains male

couples, a mother with a girlfriend, teenagers who decide to live with their grandparents, a family of rescued animals, a trans woman who starts her new life with a widowed man… They reserved one of the series to represent themselves as friends who choose to live together. And that's also a family…

By the end of the school year, the first hundred AKA Family Game decks were ready, the next step was to put the idea to the test. In the summer, the students took their cards with them to liven up workshops in urban camps with children of different ages. As they played, they were encouraged to go further, thinking of new possibilities, including more examples and realities. Each of the families worked as a trigger that sparked ideas, openness and relativization.

The GenZ girls have a communication style that is way different to that of the older people they work with: when I meet them I hardly need to ask them anything because they want to tell me everything in three seconds, they trample over each other, they express themselves with passion… The second year is nearly over, they've created something tangible, but still, I can't help wondering, what makes a group of sixteen- and seventeen-year-olds want to spend one or more afternoons a week organising content, discussing ideas, promoting values in a cultural laboratory.

And they fire off phrases that seem to form a collage that is diverse and anti-establishment at one and the same time. "To develop fully, you need diverse references; you need to feel you are represented and you can identify with the models on offer", says one of them. "We've tried to do our bit. Visibility and recognition through representation are basic", says another. Each of their statements is a sledgehammer blow to the cliché of uncommitted youth; they have seen that they can make a difference to making some people's lives easier and more dignified by broadening minds. Beyond the fact that these five young girls were already friends before GenZ, something about this ongoing effort makes them insist: "We know each other and we complement each other, and this work enriches us (…). It's opened up a whole new world to us; working as a team, side by side, all this time, it's been an incredible growing experience (…). We've broken the barrier that says we adolescents never listen, well we're here and we've been able to do this all by ourselves (…). We haven't managed to cover all the diversity there is", they admit, and they challenge themselves to do even more.

During the last year, with the girls facing their second year of A-levels, the group has been working on giving shape to workshops on diversity and sexual and gender identities based on the deck of cards. Once a week, no matter what, they still meet up with the members of Mundo en Movimiento.

The social network of friends

When I meet up with the people in charge of MadridForAll, they have just finished their weekly meeting with the students and they can spare me a couple of hours. The NGO is not yet two years old and the projects they have underway - the mapping is only one of them - seem to be quite incredible, considering that there are four of them and only two of them receive a salary for half a day of the set-up. Since its foundation, funding has certainly been a central issue for the organization, which is struggling to get by. They have members who pay a monthly fee of a few euros; they receive voluntary donations from individuals or grants from other entities. Specifically, during 2018 they were able to carry on thanks to the financial and technical support of Oxfam Intermón's Domestic Programme, which provides local NGOs with

GenZ: "We've broken the barrier that says we adolescents never listen, well we're here and we've been able to do this all by ourselves"

support for certain initiatives. This year they are still waiting for the results of the call for applications.

They stress that they couldn't have done all they've done if it weren't for the thirty or so volunteers who have stepped up to help during this time. "The social network of friends pulls you out of a lot of poverty", they say, and they know they can count on a team of friends every time they come up with an action.

If MadridForAll is possible today, it is particularly thanks to Carlos, the "socially responsible computer scientist" who lives in Switzerland and has created the guts of the mapping following the indications of the activists. The data, for example, are of little use if they are not organised: they had to be split up by their nature, depending on whether they offered basic services, health, education, etc.; but they very quickly saw that they had to introduce another transverse axis so that users could reach the segmented resources in just a couple of steps.

For example, some services are only for women, minors, or the LGBT community, others are for migrants of a certain origin. Someone who has just arrived in Madrid and needs, for instance, clothes, will be able to quickly locate on the web which associations and groups donate second hand clothes with no questions asked. A refugee family will be able to find advice on how to obtain health care. Or someone who has just arrived will be able to contact a group that offers Spanish courses, computer lessons or legal advice on how to legalise their status. The page exists and all that remains is to make it available to potential users: they are considering setting up mobile information points in the areas with the greatest influx of migrants or distributing informative flyers on how to use it. Another "little piece of paper".

The final product of MadridForAll, which is still growing, is a really very simple, secure and replicable website, which anyone in any city could reuse by taking the open source and filling it with useful information.

Its focus on "global citizenship" implies a two-way movement: helping those who come there to be a little more in control of their situation; and, in addition, raising awareness among those who ought to welcome them, Europeans who enjoy their birth right and who are today exposed on a daily basis to hate speech about those who are "different". They say they feel "bad" and "angry" about this growing xenophobia, but it also makes them work even harder. "Frustration is inherent to the work we believe in". There is no room for helplessness in that place, and they know they are not alone. They learned this in their experience in the refugee camps, and in Madrid they came face-to-face with it again.

And once again they encountered people who were still in their teens: that generation which, according to the mass media, is depoliticized and uncommitted. Officially, the GenZ girls may be accompanied by Mundo en Movimiento; but the truth is, it's probably the other way round. The generation of these young women is already growing up in a world where diversity is a value and an everyday experience. Therein lies this collaboration, one among so many, designed to make our cities a little more hospitable and to bring about unstoppable changes.

Democracia Híbrida

A path to deliberative democracy
Irene G. Rubio

What
The Hybrid Democracy project combines two tools that already exist: digital platforms, which facilitate access, participation and the gathering of a wide diversity of ideas; and citizen juries, which are representative of the entire population and ensure that debates of the highest quality ensue. Hybrid Democracy originated in one of the Collective Intelligence for Democracy workshops that were held under the auspices of Medialab Prado's ParticipaLab. The City Observatory has been developed and launched by Madrid City Council as an extension of the project.

When
Between 2016 and 2019.

Who
People interested in deliberative democracy and public policy, and potentially all citizens.

Additional information
Reference website:
https://www.medialab-prado.es/proyectos/hybrid-democracy
G1000: https://decide.madrid.es/g1000.
Collective Intelligence for Democracy: https://www.medialab-prado.es/programas/inteligencia-colectiva-para-la-democracia
Various Authors, *Democracias futuras: Laboratorio de Inteligencia Colectiva para la Participación Democrática* (*Collective Intelligence Laboratory for Democratic Participation*), Medialab Prado, Madrid City Council, 2019 (PDF):
https://archive.org/details/DemocraciasFuturasLICPD
Various Authors, *Democracias Futuras: Visiones para Reinventar la Participación Política* (*Future Democracies: Visions with which to Reinvent Political Participation*), Medialab Prado, Madrid City Council, 2019 (PDF):
https://archive.org/details/DemocraciasFuturasVisiones

Madrid, 23 April 2019

The general election are just a few days away and there is enormous expectation. The four candidates for the presidency of the government are on the set finalising every last detail of their participation with their team of advisors. Two journalists are going to throw questions at them about different current issues, asking them to explain their party's position and what their proposals are for tackling them. For two hours, the candidates hurl accusations at each other, interrupt each other, dodge the questions with slogans and proclamations, and devote themselves to embarrassing their opponents by displaying a multifarious range of questionable graphics, documents and objects. At the end of the debate, the commentators argue on who the winner is. But… what on earth does any of this have to do with a political discussion?

"The current system leads to highly polarised debates; nobody discusses current issues, it's just cockfighting. It's not about trying to find common ground", says Arantxa Mendiharat, the cultural mediator and researcher. For her, representative democracy is in the throes of a major crisis, which is why citizens have less and less confidence in how public policy decisions are made. "There are hidden interests behind the decisions, one suspects that they are not the result of real debates in which all options are contrasted, that the people who make these decisions do not represent the citizenry because they do not embrace the diversity of profiles that exist in a society, and that decisions are made on the basis of an electoral timeframe as opposed to actual long-term needs", she goes on to explain.

It is all about understanding democracy as a process in which people make decisions on issues that affect them, listen to other people's opinions and try to find a consensus or broad agreement that represents the majority of the points of view

The search for common ground that Mendiharat alludes to is one of the goals of deliberative democracy. This trend, which has emerged in the field of political theory, seeks to improve the way democracy works. According to the philosopher Juan Carlos Velasco, the concept of deliberative democracy "designates a normative model - a regulatory ideal - that seeks to complement the notion of standard representative democracy by adopting a collective procedure for political decision-making that includes the active participation of all those potentially affected by such decisions, and which would be based on the principle of deliberation, which implies discussing and debating the various proposals in public".

As opposed to a model in which different positions compete and whichever one receives the most votes wins, it is all about understanding democracy as a process in which people make decisions on issues that affect them, listen to other people's opinions and try to find a consensus or broad agreement that represents the majority of the points of view. The trend towards deliberative democracy has progressed from university chambers to institutions in Anglo-Saxon countries. Consequently, entities such as the Jefferson Center[1] in the United States have begun to develop proposals, models and prototypes to translate these theories into practice. Little by little, citizen assemblies and juries have been set up in countries such as Belgium, the United States, Canada, Great Britain, Denmark, France and Australia.

[1] The Jefferson Center is a non-governmental organisation that collaborates with citizens, communities and institutions in the design and implementation of democratic innovation processes. More information at https://jefferson-center.org.

In recent years, these institutional and academic practices have found an unexpected connection to the field of activism. "Social movements have come to realise that deliberative democracy is a valid tool and they have begun to advocate for it", explains Yago Bermejo, head of ParticipaLab (the Collective Intelligence Laboratory for Democratic Participation, 2016-2019) at Medialab Prado. "In Great Britain, for example, there is a movement that has proposed a citizen assembly to resolve the Brexit issue, and environmental movements such as Extinction Rebellion[2] are proposing something similar to address climate change".

Madrid on a Thursday in March 2016

An assembly at a cultural centre to discuss the city's recently introduced participatory budgets. Different proposals are discussed, from the creation of more bicycle lanes to the upgrading of neighbourhood parks. The discussion goes on until after 9pm, but a consensus is finally reached on which proposals should be presented to the City Council.

This assembly is a clear example of deliberative democracy in action. Nevertheless, one element is missing: the profile of the participants is strangely homogeneous. The majority are middle class white people between the ages of 25 and 45. Although there is a similar number of women and men, it is the latter who speak the most and the longest. The assembly is open to everyone and local residents have been invited to participate, but the people attending can hardly be said to represent the diversity of the neighbourhood. There are noticeable absences: people with small children, or who care for dependents; racialised people and migrants, people with limited resources, etc.

How can we reconcile democracy, representativeness and equity? One possible answer is to combine deliberative democracy by selecting participants drawn by lottery. By choosing people at random, while at the same time ensuring they meet a certain set of criteria, it is possible to involve a suffi-

2 Extinction Rebellion is an international network, which emerged in the United Kingdom, that uses direct non-violent action to compel public authorities to adopt climate and ecological emergency policies. More information at https://rebellion.earth/.

ciently representative number of people in political decision-making. "A large part of the population never participates in the decision-making process", says Arantxa Mendiharat. A draw allows us to integrate people and makes us take politics more into account because it is the people who decide. Choosing participants by drawing lots is therefore a key feature of the experiences of deliberative democracy that have been implemented in recent years.

Not only does a draw seek to ensure representativeness, but also participation on an equal footing for everyone. "The problem activist groups face is the fact that the person who has the most time is the person who has the most power," says Yago Bermejo. "That's why in institutional practices, it's very important that everyone has the same amount of time. Those who are able to devote more time are not allowed to do so, because it creates inequality and empowers some people as opposed to others. Everyone is allocated the same time and the same incentives, so it's easier for the caregiver at home to participate for the same amount of time as someone who is retired". These incentives can range from a catering service to accompany the deliberations, a parallel care space for anyone who turns up with their children, to financial remuneration, similar to that offered to election officials at a polling station.

Ireland, 25 May 2018

An historic day in Ireland. A referendum was held to ask citizens whether they agreed to repeal the eighth amendment to the Constitution, which had been added in 1983 and which explicitly prohibited the right to abortion. Its repeal would make it possible to legislate and regulate the termination of pregnancy. The 'yes' vote carried the day with a resounding 66% of the votes.

How did a country with such a deep-rooted Catholic tradition as Ireland reach a decision with such broad social support on such a controversial issue? One of the possible answers is that the path followed to reach that decision was not the usual one, and that deliberative democracy had a lot to do with the result. A Constitutional Convention was established in 2012 to discuss reforms to the Irish Constitution. What was unusual was the fact that, of the 99 people who were part of it, 33 were representatives chosen by the political parties and 66 were citizens chosen at random by a draw. Over the course of 15 months, these people addressed seven major issues proposed by Parliament, plus two others that they themselves chose. A series of recommendations and proposals for amendments were made, some of which were accepted by the Government, some of which were rejected and some of which were dealt with by committees of experts. One of their proposals was put to a referendum, and as a result, equal marriage was approved in May 2015.

After the next election, a new assembly was called in 2016, but with one important modification: this time there would be no representatives from the political parties. The 99 people who made up the assembly were chosen by a draw, taking into account four representative criteria: gender, age, place of residence and social class. The Citizens' Assembly[3] is mandated to address key issues for the country and to make recommendations to the Government. Its first assignment was the eighth amendment to the Constitution and the right to abortion.

The result of the debate, which spanned four sessions and involved expert opinions and different points of view, was a majority in favour of withdrawing the eighth amendment. "In a deliberative democracy, it is not always possible to reach a consensus, but it is possible to reach a clear majority. It is

3 The Citizen's Assembly of Ireland, composed of 99 citizens, was active between 2016 and 2018. Its reports and recommendations were subsequently debated in the Irish Parliament. More information at https://www.citizensassembly.ie/en/.

a matter of reaching majorities of around 80%, instead of majorities of 50%, which produce a division in society instead of achieving a broader consensus", explains Arantxa Mendiharat. In Ireland, there was a majority of almost 70% in the Citizens' Assembly, which was the same percentage that the 'yes' vote obtained in the referendum".

Not only does a draw seek to ensure representativeness, but also participation on an equal footing for everyone

Nearly 400 people gather in the glass gallery in Madrid City Hall. Sitting at different tables, they are busy formulating public policy proposals for the city. Ideas are floated during the first phase, which are then grouped into themes and turned into projects that are eventually published on Decide Madrid, the digital participation platform. The participants have been randomly selected on the basis of five demographic criteria: gender, place of residence, employment status, level of education and voting record. Within this group of 400 people, one hundred are children who have come with their families and are also helping to draft proposals. At the end of the day, 56 projects are published in Decide Madrid.

This is the G1000[4], an event promoted by ParticipaLab that replicates a Belgian initiative. This meeting, which was launched in 2011 to open up spaces for citizen deliberation in order to improve democracy, brings together people who have been chosen by a draw to debate issues of key importance to the country. As ParticipaLab points out, "if the G8 or the G20 is where the world's leaders gather, the G1000 puts ordinary citizens in the forefront to show that they have something to say". The launch of the Madrid G1000 is an initiative of ParticipaLab, which between 2016 and 2019 was dedicated to exploring, researching, prototyping and implementing governance and democratic innovation initiatives. "What we discovered in that exploration and creation of an international network to see what proposals there were for democratic empowerment, was the deliberative branch," explains Yago Bermejo, the head of ParticipaLab. They realised that it was an ideal way to complement other participation tools that Madrid City Council was already putting in place.

Arantxa Mendiharat also took part in the G1000 as a volunteer. Ever since 2011, she has been promoting the introduction of lotteries as a tool in the political system. A few months later, together with Lyn Carson from the Australian foundation newDemocracy[5], Arantxa presented the Hybrid Democracy project at the Collective Intelligence for Democracy (ICD) workshop which took place in November of that year at Medialab[6]. "We started out with a very simple idea. Right now there are two types of tools: on the one hand, digital participation platforms, which in Spain have been developed in several municipalities, and on the other hand, citizens' assemblies. The objective was to see how we could take advantage of the virtues of both of them so that we could combine them", recalls Arantxa.

The project was selected and five people from Brazil, Bolivia, Sweden, Italy and Madrid took part in its development following an international call. The working group was also attended by Miguel Arana, Participation Advisor for Madrid City Council, and Gregorio Planchuelo, Participation Director. "Their participation was crucial", explains Arantxa, "because they knew how

4 More information at https://decide.madrid.es/g1000.

5 Based in Australia, newDemocracy is an independent organisation dedicated to the research and development of complementary alternatives that help restore public confidence in public decision-making processes. More information at https://www.newdemocracy.com.au/ . Last consultation: 09 July 2019.

6 "Hybrid Democracy" refers to a model of participation that combines the use of two tools that already exist: digital platforms, which facilitate access, mass participation and the gathering of a wide diversity of ideas; and citizen juries, which are representative of the entire population and which, by employing a process that pressure groups find very hard to manipulate, ensure that debates of the highest quality ensue. More information about hybrid democracy at https://www.medialab-prado.es/proyectos/hybrid-democracy, and about the Collective Intelligence for Democracy programme at https://www.medialab-prado.es/programas/inteligencia-colectiva-para-la-democracia.

the City Council works from the inside and they helped us to design a few things and to see how our proposals could fit in with the existing laws". The result of the workshop was four manuals that are available online on how to create citizen juries and how to combine them with digital platforms[7].

Madrid City Council hosts the inaugural session of a recently created body: the City Observatory[8]. 49 people, 22 men and 27 women, with ages ranging from 17 to 82, listen to the words of the mayor, Manuela Carmena, and the councillor from the Department of Civic Engagement, Transparency and Open Government, Pablo Soto, as they welcome them as members of the Observatory. "You have tasks ahead of you that I hope you will be passionate about, just as those of us who are part of Madrid City Council are passionate about what we do. These tasks include understanding how this institution works, detecting the problems of the city, examining the information that is available and debating to find solutions," Soto said.

The Observatory is the result of a collaborative process between the City Council and ParticipaLab. After the workshop in which the Hybrid Democracy proposal was developed, the Participation Department became interested in the prototype and decided to make it its own, with more ambitious objectives and an enlarged scope. "While the prototype proposed convening citizen juries, under certain circumstances and for certain issues, also seeking a link with Decide Madrid, from the outset the Participation Area proposed creating a permanent body whose members would rotate annually, which could analyse public policies as a whole, and which could be convened by the Plenary Session, the Governing Board, the Mayor or by the citizens", describes Mendiharat. To make this proposal a reality, the City Council hired the newDemocracy Foundation and Arantxa Mendiharat to advise on its design during the course of 2018. Once the design was approved, the legislative process to approve the Observatory began in October and ended with the

7 The manuals are available in the documentation section of the Hybrid Democracy project: https://www.medialab-prado.es/proyectos/17420/documentacion.

8 All the documentation on the City Observatory is available on the Madrid City Council website: https://www.madrid.es/portales/munimadrid/es/Inicio/El-Ayuntamiento/Observatorio-de-la-Ciudad/?vgnextfmt=default&vgnextchannel=38a9dec3c1fe7610VgnVCM2000001f4a900aRCRD&vgnextoid=38a9dec3c1fe7610VgnVCM2000001f4a900aRCRD

signing of the organic regulation during the Plenary Session of Madrid City Council on 29 January 2019.

Eight sessions were scheduled for 2019, in which the Observatory had a two-fold task: on the one hand, to evaluate the most voted proposal in Decide Madrid and decide whether it should be sent for public consultation, and on the other, to analyse the City Council's public policies. The proposal they had to evaluate in the first session in March was "The Right to Play", which calls for a series of measures to achieve a more child-friendly Madrid.[9] How are decisions made? The format is designed in such a way that a decision on a proposal can be taken in two sessions. In the first session, the members examine the proposal and, divided into seven tables of seven people, analyse what information they need to make the decision. At the end of the day, this search produces a series of questions that will be answered in the following session by experts, the City Council or the people behind the initiative. In that second session, Mendiharat explains, "the idea is that, in order to avoid charismatic experts, they use a technique whereby one seat is left free at each table, so that the experts just go from table to table answering questions". From there, the members draw up a number of basic findings that help them to decide whether or not the proposal should be submitted for public consultation. In these cases, the Observatory has to issue a statement on the proposal that is submitted for consultation, summarising the main issues and the reasons for and against the proposal. This statement is modelled on and inspired by the Oregon (U.S.A.) Citizen Initiative Review[10] which convenes a citizen jury that issues recommendations to voters whenever there is a referendum.

In every session, a facilitation team is on hand to energise the discussions and to assist in the debates. Their work is crucial, because they try to ensure that everyone participates and can express their opinion, avoiding the possibility of certain types of individuals monopolising the interventions or dominating the group. "The first session touched on critical thinking and bias", Mendiharat explains. "We all have biases when it comes to making decisions, and being aware of them makes it easier to make a decision. It's also important to recognise the diversity of the group", she adds. You have to make an effort to understand that everyone has their own way of making decisions: some people are more analytical and others more intuitive, and each one plays a different role in the group. It's all about recognising those roles and seeing what each person can bring to the table. It's the sum of it all that helps us make the best possible decision.

These issues have a lot to do with the kind of people who are part of the Observatory. How were the participants chosen? The selection was made by drawing lots in two phases. The first phase involved a selection of households: the City Council sent a letter with an invitation to participate to 30,000 postal addresses of homes in Madrid. In the second phase, those who had accepted the invitation to participate (one per household) entered a second draw to select regular and alternate members of the Observatory, taking three criteria into account: age, sex and geographical distribution.

Thanks to this method, the Observatory is composed of women and men of various ages from every district of Madrid. However, is the fact that the participants are volunteers not in itself a biased starting point? "Yes, it is definitely somewhat biased", replies Mendiharat, "but so far every experience of this kind anywhere in the world has been done this way". And yet, for her, a draw allows many people to apply who would otherwise not take part

9 More information at https://decide.madrid.es/proposals/22742-derecho-a-jugar-para-un-madrid-mas-amigable-con-la-infancia.

10 The Citizen Initiative Review is a decision-making process developed by the North American organisation Healthy Democracy, dedicated to the design and coordination of innovative programmes in deliberative democracy. More information at https://healthydemocracy.org/cir/.

in any other political or social initiative.

Based on previous experiences such as the G1000, Bermejo senses that there could be biases in the Observatory's participants. However, the conditions in the enrolment process have been different and only a detailed survey of the participants could clarify whether or not these biases have come to the surface. "Our experience in the G1000 is that the people who are least likely to volunteer tend to vote for right-wing parties, which is not the case in other parts of the world", she explains. Sampling, as it has been carried out, already corrects this to a certain extent, but it ought to be improved in the future. "Another possible bias is that there are hardly any foreigners or primary caregivers looking after children or the elderly". Even so, Bermejo believes that these biases can be resolved by adding new criteria to the selection of members, taking other issues into account to ensure greater representativeness. International experience also shows that many people change their minds during the course of the discussions due to their participation in a deliberative process with access to diverse information, which means that their starting point is not the most determining factor when it comes to making a decision.

Arantxa Mendiharat: "We all have biases when it comes to making decisions, and being aware of them makes it easier to make a decision"

"One of the major questions for the Observatory is to see to what extent the group is going to be empowered and is actually going to analyse municipal policies", reflects Mendiharat. As far as she is concerned, they have got off to a promising start: "Manuela Carmena presented the Observatory during the plenary session, and that led to nine questions, six of which were from women and three from men, something that is quite remarkable. Right now there are 22 men and 27 women in the Observatory, and it shows".

For his part, Bermejo, who was also at the first session as an observer, adds that "the initiative shown by the people who were drawn in the lottery when it comes to actually opening up the shell in order to gather information is limited, and this is one of the weak points that we need to work on. I would have preferred it if they had looked for alternative sources. Think of a controversial decision: you can't just ask the government for information, because it's a stakeholder in the decision".

In the forthcoming sessions, Bermejo points out something that remains to be seen: can the Observatory make decisions on any issue, even the thorniest or most contentious ones? Can it make recommendations that run contrary to the position of the City Council? "In principle, things are set up so that this can happen, and that is what those of us in ParticipaLab would like to see happen", he says. "Where does the problem lie? In the fact that there is no State legislation to protect citizens' initiatives or referendums". We will have to wait and see how the sessions of the Observatory develop to see if this tool is really going to explore its full potential in the future.

Puente de Vallecas Experimenta

Making a city from the neighbourhoods
Jorge Martín

What
A citizen laboratory carried out in the district of Puente de Vallecas. This is the fifth Experimenta Distrito (District Experiment) organised in Madrid by Medialab Prado in collaboration with local agents from the neighbourhoods. It is a space in which residents of the neighbourhoods can think and work together and where they can prototype projects that build new places and links. Prototypes for a total of ten projects were made: From the Boulevard to the Palmera-Vallecas in Bloom; Diverse and Multicultural Entrevías; "Bivo: an Electric Generator Using Bikes for Community Activities"; Vegetable Garden - Garden of the Senses; The Melody that Unites Us; "Locus Convivii: Atelier for the Prototyping of Safe Places"; Visible Women; "Shade in the Square: Living in Entrevías Square"; "ValleKrea: Add Colour to your Neighbourhood"; and "Voices and Memories on the Street: Memories to Occupy the Present".

When
From September 2018 to April 2019.

Where
The central office of the project was located in the Puente de Vallecas Municipal Community Health Centre. The workshops were held at the Pozo del Tio Raimundo Cultural Centre. All ten projects were carried out in different locations in the district.

Who
A varied group of neighbours from the district took part in Puente de Vallecas Experimenta, either as individuals or organised in groups, associations or foundations, together with a professional support team that included mediation, mentoring, production and documentation. In addition to Medialab, the project received public support from the Puente de Vallecas Municipal Community Health Centre and the Pozo del Tio Raimundo Cultural Centre.

Additional information
Reference website: https://www.experimentadistrito.net/puente-de-vallecas-experimenta/
Videos of the selected projects in Puente de Vallecas Experimenta: https://www.youtube.com/playlist?list=PLRhlC7Aey_sRyYRu-8S0FiBEKQYnJBy0j
Video of Experimenta Distrito 2017: https://www.youtube.com/watch?v=FuhZJA9P5mY

A mediator asks a couple of workshop participants: "How thick should the rope be?". And she goes on: "What sort of rope do you want? I can see that there are lots of different kinds on sale". The two participants look at each other and laugh. "No idea!" The conversation takes place around a table in the Pozo del Tio Raimundo Cultural Center where some of the mediators of the Puente de Vallecas Experimenta project have sat down with some of the different participants in the workshop. Each mediator is searching the internet for the materials that each team needs for their project. It's the first weekend of the workshop and the teams are deciding on what to put in their shopping list, a list that will be refined over the weeks to come until the prototypes for each of the projects are finally built.

What is surprising and yet fascinating about this snippet of conversation is what it encapsulates. On the one hand, it reveals the participants' lack of knowledge about the material they are going to be working with. On the other hand, it shows that it is precisely this lack of knowledge that makes collaborative work so necessary. And, besides, it shows that this can be fun!

How do you give shape to a citizen laboratory? What does it generate in the neighbourhoods? The more I got into the project, the more the questions moved towards other issues. I was interested in revealing the everyday things in the lab, the little things, and to understand their materiality

About a month and a half ago I was invited to talk about the Puente de Vallecas Experimenta project, the fifth Experimenta Distrito to take place in Madrid, following the pioneering experience in 2016 in the district of Villaverde and the three ones that were held in 2017 in the districts of Fuencarral, Retiro and Moratalaz. Experimenta Distrito organises experimental and knowledge-producing workshops that are carried out using citizen laboratory methodology in the city neighbourhoods; in other words, they are workshops that are co-produced with a local audience and are intended to integrate with, embed themselves into and collaborate in the specific context of a particular territory. Unlike other laboratories carried out in Medialab, the challenge of these particular ones lies in their territorial aspect: they are laboratories designed to be experienced by and for the district and the neighbourhood[1].

Puente de Vallecas Experimenta is a complex project: because of the number of actors involved, the multiple practices undertaken and coordinated in such a short time, the range of knowledge brought into play, and the movements and trajectories that each participant makes over the course of the project to reposition themselves from the baseline conditions to the final result.

When I began to think about how I should approach this text, I started working on rather abstract issues that were not particularly easy to understand if they weren't related to a specific context. What exactly is a citizen prototype and what is it for? What is the difference between something public and something common? How do you give shape to a citizen laboratory and how do you transfer it to one of the city's neighbourhoods or districts? What exactly does such a laboratory generate in the neighbourhoods? It seemed that the narrative should attempt to discover what it means to work from a

[1] In Experimenta Distrito, all the projects and activities that are carried out are documented with free licenses so they can be replicated and improved on in other neighbourhoods and cities. For more information, see the website https://www.experimentadistrito.net/ and the documentary *Experimenta Distrito. Muchas Formas de Hacer Barrio (District Experiment. Many Ways to Create a Neighbourhood)* (Cecilia Barriga, 2018): https://www.youtube.com/watch?v=FuhZJA9P5mY.

They wanted to convince the associative network that the project was an opportunity to do things for the neighbourhood and above all from the neighbourhood, and that what Medialab could provide was a little infrastructure and some resources to make it possible

public institution in neighbourhoods in order to deploy a policy of the common (Way to go! Just like that!). On the contrary, the more I got into the project, the more the questions moved towards more mundane issues; I thought it would be interesting to reveal the everyday things in the lab, the little things, and to understand their materiality.

Throughout the workshop, I realised that it wouldn't be possible to answer the questions on an abstract level; they were too generic. I was interested, however, in trying to unravel the relationship that exists between institutions, people and things, three elements that seemed to be constantly interconnected. So I thought that what I could do was try to share my own experience within the project and in this way outline a few ways that could prove useful when it comes to thinking about the practice and politics of the public and the common.

To help me get started, Medialab put me in touch with Isabel Ochoa, the project coordinator, and they invited me to the presentation they were going to make of the projects that had been selected. The presentation was held at the Pozo del Tio Raimundo Cultural Center. When I arrived, the place seemed a little sober and cold from the outside. The building was an intense red brick, symmetrical and somewhat post-modern construction. The entrance to the cultural centre was on the first floor. The opaque metal access door, akin to an emergency exit, did not let you see inside. Yet, as soon as you walked in, any sensation of coldness vanished. After passing through a small lobby, you arrived at a central space, also made of brick, which was completely covered by a skylight. The space was a kind of reinterpretation of a Castilian courtyard, with a porticoed area running all around it and a central space lit up from above. It was quite bright and rather noisy, which turned out to be one of the problems that inevitably characterised the subsequent workshops, which were held in the cultural centre itself. And there were quite a few people as well; people setting up chairs for the presentation, asking other people to come and sit down, and organising the details for the presentation of the selected projects.

The idea was that the promoters of the selected projects would present them so that anyone who wanted to do so could sign up as a collaborator. Out of a total of 47 projects, ten had been selected for development and they contained a wide range of proposals[2]. One idea was to provide shade in the square in front of the Entrevías station, another was to upgrade the Plaza Vieja by adding a play area for children, and a third one was to add tree grilles along the pathway from the Boulevard to the Solar de la Palmera. There was also a project that proposed building a musical fence for one of the neighbourhood schools and another one for a vegetable garden/garden of the senses. Project number six wanted to launch a programme for older women on Radio Vallecas, while yet another one wanted to map abandoned, disused or closed-down places as a way of highlighting the degradation of the neighbourhood. The eighth project wanted to generate safe places for people living with mental health-related suffering, and the ninth, a network for cultural initiatives among adolescents. And last but not least, a project had been selected to create a portable electricity generator

[2] For more details on each of the projects, please visit https://www.experimentadistrito.net/puente-de-vallecas-experimenta/.

that could be run from a bicycle and could provide coverage for different types of activities and events.

The sponsors included neighbourhood associations, foundations, social groups and individuals. Also, two other public institutions were involved besides Medialab: the Municipal Centre for Community Health, a key agent during the development of the project, and the El Pozo Cultural Centre, which kindly hosted the workshops. On that first day, I met the people who were behind the projects and the mediation team. I only introduced myself to Isabel so she could know who I was and what I looked like. I didn't want to interfere, I thought to myself. When the presentation was over, we gathered around to have a small snack they had laid on.

I also attended a second presentation a couple of weeks later at Medialab. This time, the idea was to let people get to know each other a bit better, so we did a short mediation exercise as a kind of introduction to the workshop. We repeated these exercises throughout the workshop, always with the intention of sharing experiences, getting to know each other better and getting closer to one another.

Bringing things down to earth

By the time I returned to the El Pozo Cultural Center on the first day of the workshop, I was (or we were) more or less familiar with the faces of the participants and with the place. Ahead of us lay our first working weekend with all the different teams; then there would be two weeks of work in which each team and project would organise itself as it saw fit; and finally, during the second weekend, the prototypes of the projects would become a reality and there would be a final presentation and a knees up.

We spent the first weekend thinking about and developing ideas for the projects, and three phases were established to help guide and facilitate the work. First of all, the idea had to be brought down to earth and we had to get to know the people involved. The next step would be to design and define the idea. And finally, we would think about how we were going to make that idea a reality

The ideas flowed one after the other. Someone would suggest an instrument they'd seen somewhere and that idea would lead to somebody else saying they'd seen something similar. We searched for references on the Internet and little by little we came up with four possible instruments

so we could draw up a shopping list. Each day, cards or small documents were handed out to give shape to each of the objectives. These documents contained brief questions or offered possible ways to get out of hypothetical dead ends.

I spent Friday getting to know the people who were taking part in the workshop a little better, a heterogeneous and fascinating crew. I sat discreetly at the tables and let them talk while I took pictures of their hands (a practice I repeated on quite a few occasions to accompany the story). If I had to, I would introduce myself as the narrator of the project, a label I wasn't all that happy about from the outset, but there was nothing I could do about it. If I didn't have to, I would intervene and make comments when I thought I had something to contribute to the ideas being discussed. This is what I did for almost the entire workshop, although as time went by, I became more involved in some projects than in others, for two reasons: on the one hand, because of my own affinities; and on the other hand and especially important, to respect the internal dynamics of some of the projects, whose members often asked for a little more intimacy.

Mediating

Mediation is the art of creating common ground[3].
JUAN GUTIÉRREZ

On the second day of the workshop I focused on understanding the context of the project, and the role of the mediation team and the other professionals who were collaborating in it. In addition to the mediators, there was a team of mentors, a production team, the caterers and a diverse group of documentary filmmakers and researchers. By this time, Experimenta Distrito had already reached its third edition and it had attracted considerable interest. There were several researchers that first weekend who had come from Portugal, Germany and Italy to learn about the project. Some of them, such as Carolina, who was preparing a similar project in Lisbon, wanted to understand it in order to replicate it. For others it was part and parcel of their academic research. As far as the people who were documenting the process, each one had their own role to play: one of them made a video recording, another one an audio recording for a podcast, another one took pictures and another one spread the word on social media.

I met Laura, Cecilia, Marianna, Helena and Cristina, the mediation team, and Pascual, Marta, Isa and Jose Ramon, the mentor team. In some of those conversations I had the chance to talk at some length with Isabel and Laura about the role of mediation.

The role of a mediator is by no means an easy one, and on many occasions it is also a precarious one, they told me. A mediator is someone who has to

3 Conference "Thinking about Mediation", held in Medialab between 2011 and 2012. For more information, please consult the conference blog: http://pensarlamediacion.medialab-prado.es/2012/05/31/hacer-mundos-metodologias-del-encuentro/

be there, available, but at the same time, they shouldn't stand out, they should go unnoticed, they should be, in a way, peripheral. He or she is someone who accompanies, who makes it possible or who makes it easier for things to happen, or for things to continue to happen without allowing unforeseen events to disrupt plans or, precisely because of any such unforeseen events, for things to happen in a different way, but for them to happen.

Mediation involves writing letters, preparing templates for fact sheets and guidelines, making roadmaps, organising spaces and meetings, connecting with associations, meeting with them and telling them about the project, talking to participants, suggesting that maybe we should go this way rather than that way, helping to find a way out when it seems there is no way out, providing resources, being available to keep things simple and on the right track, and all sorts of other things.

Sitting at one of the tables with Isabel while I was solving some minor logistical problems, she told me how the project had managed to get that far. She briefly explained each phase to me, its timing and its specific practices. Mediation involves lots of different practices, and obviously they don't all happen at the same time.

In this particular case, the mediation began in September 2018 with the idea of setting up a new Experimenta Distrito, but this time entering the neighbourhood through a different place, Isabel told me. The difference lay in getting the neighbourhood involved through an institution that was not the actual District Council itself, as had been the case in the previous editions. They decided to invite the Municipal Community Health Centres (CMSC) in Madrid so that the project would be accompanied by local institutions from the neighbourhoods. The Puente de Vallecas CMSC accepted the challenge.

The first hurdle, Laura told me in another conversation, was getting the neighbourhood's associative fabric to accept the project as its own; in other words, they had to avoid "colonising" the neighbourhood with extraneous practices. There was considerable initial reluctance on the part of some of the local players. "Here come the folk from the centre telling us how to do things". "We had absolutely no intention of doing any such thing", she insisted. What they wanted was quite the opposite, to convince the associative network that the project was an opportunity to do things *for* the neighbourhood and above all *from* the neighbourhood, and that what Medialab could provide was a little infrastructure and some resources to make it possible.

During the first months of the mediation work, they dedicated their time to spreading the word about the project in the neighbourhood, and to do that they had the support of the Puente de Vallecas CMSC and of certain "anchor" people and institutions, as they were called: the advisor to the district councillor, the local community leaders in the neighbourhoods that make up the district and the neighbourhood associations, whom they met and discussed the project with. And they pointed out that the projects didn't have to be new; they could be ideas that had already been put forward or sketched out and hadn't managed to get off the ground because of a lack of resources.

I was particularly surprised by the mediators' ability to navigate between different languages in such an agile and fluid way, each aimed at a different type of audience. One moment they were filling in applications for licenses - for example, the permit for the boys and girls of the ValleKrea project to upgrade the Plaza Vieja - and the next they were asking ADIF to allow the Habitando la Plaza project to occupy the esplanade in front of the Entrevías station or they were tackling material contingencies in the cultural centre. They made public

presentations of the project at which they had to weigh their words to make sure they were neither too technical nor too abstract, but attractive enough to encourage people to participate; and they also had to use a considerably more business-like language in the meetings. And, of course, added to all that was the always positive attitude they had. You could see that they were having fun, and that encouraged others to enjoy themselves, in other words, they provided spaces for encounters and intimacy and, not least, for mutual care.

Mediation, therefore, took place at multiple levels and between various agencies, entities and participants. And it was in that institutional, executive or intimate mediation that they grappled with the construction of the common, that place where the boundaries between public and private vanish. Their mediation managed to unfurl a way of doing things that made it possible to think openly and build the common from a sensitivity that changed the rules of the game.

Prototyping

On Sunday, I sat down at the working table of The Melody That Unites Us project shortly before they decided what materials they were going to buy. For some reason or other, I got hooked; I could see that I could contribute a few ideas. More than that of a reporter, my role within the group became one of a collaborator or even a mentor; it wasn't all that clear but then again, there really wasn't any need for it to be made clear. Being somewhat undefined, in this case, has numerous advantages: I could come and go as I pleased, and my contributions, however small, were always welcome, which allowed me to experience the project from the inside as well. I joined the group's WhatsApp group and followed its progress until the end of the workshop (and beyond).

The Melody That Unites Us project was proposed by the family association of the Manuel Núñez de Arenas school. The initial idea was to erect a musical fence made up of sound elements that could be attached to the existing school fence in order to create an "audible" relationship between the school, the street and the neighbourhood. Right from the outset, it was decided to make musical instruments that could be adapted to the fence. Each instrument was specifically designed by a somewhat fluid group of mothers and fathers, who tended to come and go. They weren't all there every day, nor did they all participate in designing all the instruments. Some were more involved than others. Some were more involved in the communication phase, others in the initial ideas phase and yet others in the construction phase. In addition to the families, which also included some girls and boys, I joined the team along with a collaborator and a mentor, who also happened to be one of the mothers.

The role of the team of mentors, unlike that of the mediators, was to help and guide the different groups to address specific "technical" issues. They also acted as experts, i.e., they placed their knowledge at the disposal of the projects. They had more experience in certain professional fields and could help channel the ideas that came up, which tended to be rather vague initially. Five people made up the mentoring team during the workshop: a technical architect, an architect, a computer programmer, an anthropologist and a cultural facilitator. Each one helped with different projects, as required. If the participants, as was often the case, tended to open up and expand the ideas for the projects, which was undoubtedly necessary, mentoring helped to frame and direct them and to make them more specific.

They came up with lots of ideas, but they had their minds set on being able to build the project during the second weekend of the workshop, and that it should also be something that the children at the school would be interested in.

The ideas flowed one after the other. Someone would suggest an instrument they'd seen somewhere and that idea would lead to somebody else saying they'd seen something similar. We searched for references on the Internet and little by little we came up with four possible instruments. First came the "telephone tangle", a series of red corrugated tubes that would be wrapped around the school's fence. The idea was that from one end of each tube you could connect, talk and whisper to the opposite end. Since the tubes were all tangled up, the tricky yet fun thing about the instrument was having to guess which was the opposite end. The second one was a "flamenco fence" which would consist of geometrically replicating certain rhythms taken from different flamenco styles or *palos*: a soleá, a fandango and a seguiriya. The third one was called the "vallarpa", a kind of harp attached to the fence, which was to be made with guitar strings and a PVC tube that would act as a sounding board. And finally, the "tubophone", a tuned percussion instrument made of PVC tubes of different lengths.

By the end of the morning an initial pretty basic shopping list had been drawn up and presented to the mediators. It was not enough just to say you needed a screw, you had to decide on the exact size, thickness, length and ma-

terial, and several people had to have their say... and that was the case for each and every material in each and every project. That was when the details were decided, when all the projects converged and when all those myriad paths intertwined in something akin to a funnel. Each project had reached its first milestone: they had drawn up their shopping list.

Eating

When lunchtime came around, many of us removed our masks and discarded the role that we had been assigned. Where just a few moments ago we'd been discussing PVC pipes and pipe lengths, or time management, at lunch we could afford to ask a few questions about other things. To get to know each other a little. Where they came from, what they do for a living. In other words, you start to weave a net, you establish spaces of intimacy.

Lunch, as a peripheral situation of production practices, often goes unnoticed. And when I say lunch, I also mean coffee breaks or small informal gatherings. However, these moments are in fact crucial if the objectives of the workshop are to be achieved. At the end of each day, we rounded off the workshop by enjoying a few beers in a nearby bar called Amigo José.

Building

When I turned up at the cultural centre on the second weekend, I found a stack of materials that made the place look more like a construction site than a cultural action workshop. Three-metre-long PVC pipes, pallets, plungers, flanges, saws, drills, screws and all sorts of other materials! You'd have thought we were there to repair the plumbing in the centre. But no, the materials were destined to be flowerpots, birdhouses, hopscotch panels and growing tables.

The families at the school quickly got down to business. They didn't have a lot of time and they had to make sure they had everything they needed. They wanted to turn the four prototypes they had planned into reality, although in the end only three were built and the "fence harp" was left for later. The most spectacular of them all was the "tubophone", because it was so big and beautiful.

The "tubophone" consisted of a percussion instrument that reproduced a double diatonic scale in C. 15 PVC pipes were used, their elbows were fitted with metal clamps and caps were added to stop them from filling up with water. They decided on both the thickness and the size of each of the tubes by replicating a similar instrument they had found in a video on YouTube. To add the final touch to the instrument, they used coloured sprays and bought two pairs of red flip-flops to serve as drumsticks.

When I arrived, they were already hard at work. A mother was measuring and calculating the length of the tubes so that the C note would in fact be a C and the D a D etcetera. They got the lengths from a chart they downloaded from the internet. Meanwhile, two fathers were cutting the tubes, together with Bernardo, a collaborator who had joined them. A fifth mother cum mediator was busy sticking the elbows together amidst an intense smell of glue that filled the whole place with a somewhat overwhelming stench.

At the next table, people from the Vegetable Garden-Garden of the Senses project were also making one of the four growing tables they had planned. The table was made from wood recycled from construction pallets and it was put together thanks to the expertise of Monica, the mentor who helped them design and arrange and assemble the pieces of what was a pretty complicated puzzle.

In a way, to think about an open project is to accept one's own inability to carry it out alone; it is allowing others to become part of the process of its creation and to discover that, in this interaction, the project gets better

Presenting and celebrating

The last day has arrived and the workshop is about to end. It's a little before midday in the cultural centre and everything is buzzing. The families from the school are finishing painting and assembling the instruments, just like the rest of the projects, which are putting the finishing touches to their creations. In the absence of a full-scale prototype, the group that wanted to provide shade for the station square has made a small model. The people from the Locus Convivii project are finishing painting some masks. The Voices and Memories on the Street project has set up an exhibition with images and they are taking the opportunity to collect testimonies, and the rest of the projects are just as busy. The mediators insist on the fact that, as well as preparing the presentation, it is very important to document the project, but people don't feel like doing much more just now, so they'll leave that for another day. Now they want to finish what they're doing as best they can.

A screen is put up, but there is so much light you can hardly see anything. The screen is moved to a slightly darker place, and with it, all the chairs. The sound system is ready to go... But people are still working out the last details. The teams that have been working outside the centre begin to arrive.

In the final presentation, each project tells everyone about what it has done. Each group has no more than ten minutes, but almost everyone already knows what the different projects are all about. They focus on what they have achieved or hope to achieve. Some of them submit ideas for the future, two weeks just isn't enough time. The penultimate presentation is by Locus Convivii. When they began the process, their idea was to think about how they could build a safe place for young people living with mental health-related suffering. They ended up, they tell us, creating that very place during the workshop meetings. As a gift, they have printed some bags with the phrase "This bag is a safe place", which many of us accept with gratitude.

The last presentation is by the Melody That Brings Us Together team. Carlos, one of the parents, tells us about it in a very emotional way. "The achievement", he says, "has been to bring so many people together and to vibrate together; to feel the music we all have inside us, in our hearts". He leaves us all with tears in our eyes. He ends by inviting us to try out the instruments on the fence... And so here we are, a group of at least thirty or forty people playing three instruments that have been invented for the neighbourhood and for kids who will discover them tomorrow, Monday. Everybody here is smiling and feeling comfortable in one another's company despite the fact that few of us knew each other two weeks ago.

Collaborating: thinking openly

Looking back on the experience, I can confirm that a fundamental aspect for the development of the workshop has been the importance given to collaboration, the practice of working together, which I would like to interpret here based on the idea of thinking openly. In a way, beginning to think about

an open project is to accept one's own inability to carry it out alone; it is allowing other people, institutions and situations - including uncertainties and unforeseen events - to become part of the process of its creation, conception, production and documentation, and to discover that, in this interaction *with* and *by* others, the project gets better, it grows and it transcends itself, or at least it changes and leads to other hitherto unimagined places. To think openly is to include collaboration in the work process and to allow that collaboration on the part of others, of those who are not you, to change, to give form to, and also to make a project that was initially yours theirs as well.

Puente de Vallecas Experimenta exuded that collaborative spirit from the very beginning. There was no sign of any rivalry at all between the working tables, quite the contrary. What there was an attitude charged with manifest insecurity: nobody was all that sure what they were doing there, they just knew they wanted to do something.

In actual fact, the collaboration within Puente de Vallecas Experimenta did not emerge spontaneously, it had been more of a strategic premise; a working premise laid out from the start of the workshops, in which the meta-objective was not so much to give shape to specific projects, but rather for each project to deploy its own network of relationships and to succeed in working in collaboration with other agents in the neighbourhood. To achieve this, Medialab - by making its resources and infrastructure available - helped to generate spaces for open thinking, spaces where the rules of the game could change.

Initially, my intention was to stay on the sidelines of the projects and just to tell the story as an external observer, but I simply couldn't. I felt compelled by that sense of celebration, and by the way we were all invited to stick our noses in each other's business; to be, in a sense, a constructive periphery; to think about others, and thus to think with others.

Seeing how in just over two weeks projects that had started off in a pretty vague way had become much more streamlined was a pleasant surprise for me, because initially, when I saw the first presentations, I had doubts about what could be achieved in just two weeks. It's not that I thought that any one project was better or worse than the others, they had all put forward some really stimulating ideas to work on. What I did doubt was how much capacity there would be to work everything out in such a short time.

However, I was surprised. During this time, some projects became more mature, others reduced their scope, others experienced problems and ups and downs that forced them to postpone their implementation or reduce their materialisation to something more ephemeral and volatile; and many, the majority, began a work process and established links and connections that promised, by the end of the workshop, to move forward into the future. In every case, everyone needed and wanted the help of others. And in this willingness to receive help, new personal relationships were necessarily established that went beyond the purely functional; the creation of affective bonds was encouraged.

Instituting the common

On my way home, I recognise places in a neighbourhood that was previously unknown to me. I leave behind the Pozo del Tio Raimundo area, which has been where the workshop has been held these past few weeks. I walk along the Avenida de Entrevías, with the esplanade in front of the station, where I hope that in a few years' time there will be the shade that the neighbours have proposed. And I also pass near to the Plaza Vieja, where some traces of chalk from the hopscotch may have survived.

One of the challenges that Experimenta Distrito faces every time it arrives in a new territory is to discover how to move to what is supposed to be the periphery of the city in order to place it in the centre. A worker at the cultural centre told us that in Vallecas they say that "Madrid is a neighbourhood of Vallecas". Every neighbourhood is the centre of the lives of the people who live there, and emphasizing that is part of the challenge of the project. For an institution, this exercise means detaching itself from its own centre and trying to inhabit other centres; in other words, placing itself on the periphery of others in order to build a community.

And I ask myself, in conclusion, whether the project I have described is not something more than a workshop (or if this is exactly what a workshop should be). Whether it doesn't in fact form part of a series of practices that allow us to glimpse other ways of doing things, in a way that is closer and more receptive to what citizens are demanding; practices promoted by public institutions that are made by and with people; practices that transcend the informed participation that asks whether or not you like a project; practices that seek to reshape the relationship between public and private by proposing places in common and places for the common. I wonder if these spaces are not in themselves institutions of the common.

If we refer back to the photo of the first vignette, we see how the trajectories of the *materiality of the experiment* converge in it, together with the bewilderment and, at the same time, the festive emotion of the *recognition of a non-experience*, which, instead of being a stumbling block for participation, is in fact an excuse to work together. I believe that these two characteristics give rise to a way of doing things that is different from other workshops and forums in which I have been fortunate enough to participate, and it is different precisely because it allows this insecurity to manifest itself.

If we consider these multiple trajectories that run through the project that we have described, we can see that some institutions have barely left their mark on it while others have become involved in body and soul; we can see lots of people who, no matter whether they were experts or they hadn't a clue, were interested in sharing an experience of collaboration, in thinking in common and openly, and who have made all this possible through the management of public resources that belong to everyone and which they are trying to reinvest in everyone.

Therefore, it will not be possible to think of an institution of the common as an institution under construction, as a sum of micro practices. In other words, rather than starting from the idea of what public institutions do, produce or build in the development of projects, the starting hypothesis could be to consider that the institution of the common is *built* by developing projects such as Puente de Vallecas Experimenta.

Experiences and people

CoderDojo, programming for ninjas

Isabel, Santiago, Julia, Lola and Manuel

Lola:

I am forty-eight years of age, I like learning German, making brioche bread and sewing. And Queen.

I arrived at Medialab Prado two years after Manuel (my husband) and Isabel (our eldest daughter). During all that time, there wasn't a single Saturday when I didn't ask them what Medialab was all about, and what CoderDojo[1] was all about. They were never able to come up with a definition that could explain exactly what it was. And I used to get very angry... How could it be possible that they couldn't explain what that place was all about?

Two years earlier, our personal economy wasn't looking good: All of a sudden, Manuel and I found ourselves with three babies - the twins arrived unexpectedly, devastating our lives and our bank accounts. Without prior notice, we were a large family.

I was looking out for free activities we could do with the kids, and I found one that didn't seem to fit with anything I recognised, but that didn't matter. The idea was to have fun, for free.

So Manuel and Isabel went for it. The adventure that would literally change our lives.

At the beginning, I stayed at home with our smallest kids, the twins, who were five at that time. And when Isabel got back home, all excited, she would turn on her laptop and show me the projects she'd been working on. She spoke about Alfredo Calosci, her mentor in Processing, whom she adored. She talked about Sergio Galán and Mónica Montoya. She brought badges home in her bag, and to her, they were worth more than any trophies. Manuel was even more excited than her, if that was even possible: I began to

[1] CoderDojo is a programming workshop for children aged 9 and up, which takes place every Saturday at Medialab Prado. It is part of the international network of coder dojos.

Lola: "There wasn't a single Saturday when I didn't ask them what Medialab was all about, and what CoderDojo was all about. They were never able to come up with a definition. And I used to get very angry... How could it be possible that they couldn't explain what that place was all about?"

understand that Medialab was a different place. I always told myself: "Lola, something big's brewing here!".

And once the twins and I started going to Medialab, I understood everything. At first, I felt very uncomfortable seeing all those people wasting their creativity in things that seemed crazy to me, I even felt annoyed with them, because I thought they were wasting their time with plain nonsense. People printing useless objects with 3D printers. People creating rudimentary robots with everyday materials. People programming mobile apps to detect the tiger mosquito. People trying to install beehives on the rooftops. I admit that my attitude back then was motivated by a mental numbness and a rigid way of thinking that have little to do with the Lola I am today, and in my defence, all I can say is that I was witnessing a change in the social mentality and a collaborative movement I had never seen before, and which would soon trap me in its web.

We started off at Medialab in CoderDojo, a programming club for children; back then we went as parents, now we're mentors. Ever since then, Medialab has backed our initiative to start up another *coder dojo* at the Ángel González Public Library, in the Campamento neighbourhood (in the Latina district), which we manage alongside a large group of people with the same interests as us.

In all these years I've seen a change of rhythm in the evolution of Medialab Prado. As I see it, this is due to the management of the team of mediators working at any given time. I've met a number of teams, some more generous than others, some more provocative, some more conventional, but they all had something to contribute, either to help things progress, either to identify things that weren't worth implementing, because they didn't provide good results. I've always tried to collaborate with them, with whatever they needed, and I've always seen them as people with interests that were over my head, who were intelligent, innovative, and above all, approachable.

I am sincerely grateful for the opportunity that Medialab Prado has given me, allowing me to get to know these people, and I feel I'm part of a chain that inevitably makes me want to leave my humble mark, just like those who went before and those who will follow, and to pack away other people's contributions in my bag, so I can pass them on to the next people in line. I am a normal, everyday person, just like so many others. However, at Medialab Prado I grow, I am free and I am in a space that allows me to see that I have values I didn't know I had, that I can add something to my environment, and change it, just like the butterfly effect. I can see inside people, their world, their interests, their desires. Someone will remember me for something I did, and I'll also remember other people. I see our children being part of this environment, growing, as something natural, and I think: "Something big is brewing".

Isabel:
I remember one day, when I was about eight years old, my mother told my father and me that she'd found a free club that we could go to on Saturdays, but that my brothers couldn't go yet, because they were too young. I pulled a face, as if to say: "What...? Programming...? Is that something you can eat...?" And that was the beginning of a series of afternoons that would turn my boring Saturdays into wonderful Saturdays.

The first group we joined was Processing[2], with Alfredo Calosci as a mentor. My father would write the code and I'd do the dots and commas, and I'd blame him a bit when we left something out. For six years I was in lots of groups, such as App Inventor[3] or Minetest[4]; sometimes I went back to Processing; until one day they called me and my dad so we could meet a man named Joaquín Mendoza, who was going to be the mentor at HTML[5], which would later turn into Creative Programming. At first, I wanted to stay where I was, but in the end we decided to give a chance to a programming language we knew nothing about. It was a very wise choice, because in next to no time we learned so much, not only HTML but also CSS[6] or Javascript[7].

I am currently the mentor of this group, as a stand-in for Joaquín, while I help the ninjas create their own websites with their hobbies, favourite series and so on. I love this activity, and I'd like to stay here for a really long time, because not only have I gone from not knowing anything at all about programming to at least understanding some of these languages, but I've also met complete geniuses who know how to do almost anything and who have passed on a lot of their knowledge to me.

I don't just like Medialab Prado because of the CoderDojo, I also love the activities they put on every now and then, like one they did about bees, or about tiger mosquitoes; and then there's the exhibitions or the machines that are in the hallways sometimes or in other rooms.

Santiago:
Medialab Prado is a centre in which many interesting activities take place, such as CoderDojo. When it's a special day, Medialab usually puts on special activities, and they put a lot of creativity, teamwork and education into other projects.

Isabel: "When I was eight years old, my mother told my father and me that she'd found a free club that we could go to on Saturdays. I pulled a face, as if to say: 'What...? Programming...? Is that something you can eat...?' And that was the beginning of a series of afternoons that would turn my boring Saturdays into wonderful Saturdays"

Julia:
For me, Medialab Prado is a place for all sorts of different types of special people, like makers, techies, scientists, etc., because there are all sorts of projects ranging from opening a computer up and looking at its components, to sewing.

2 To learn more about Processing, see the corresponding text by AVFloss.

3 App Inventor is a software development environment for creating simple applications for Android mobile phones. See https://es.wikipedia.org/wiki/App_Inventor.

4 Minetest is a free and open source game played by creating structures made out of blocks. See https://www.minetest.net/.

5 HTML (initials for HyperText Markup Language) is a language for creating websites. It is a standard that defines a basic structure and a code (called HTML code), with which to define the contents of a website, such as images, videos or games.

6 CSS (initials for Cascading Style Sheets) is a graphic design language, widely used to establish the visual design of webs and user interfaces written in HTML.

7 JavaScript is an object-oriented programming language, used in applications outside the Internet, like PDF documents or desktop applications such as widgets.

Manuel:

The first time I arrived at Medialab Prado, I hadn't a clue where I was. The architecture of the building already tells you how special the place is, it's a cross between the industrial tradition of the 19th century and the digital avant-garde. The screen-façade and *La Cosa* (*The Thing*, a programmable illuminated staircase) leave you in no doubts that you're entering an unusual space. It took me some time to understand that it was a public, municipal cultural centre that, unlike other centres, brings people together to make things: to investigate, create prototypes, teach, learn... mostly in the technological area, but not only there. Recently we've seen a drift towards more social and ecological topics. It has a collaborative and free of charge spirit. It has a maker essence.

Manuel: "Something worth highlighting is how extremely important the mediation team at Medialab Prado is. A good, responsible team that is involved in the project (as is currently the case) makes the working groups feel that they are being supported, and they help work and ideas to flow properly"

I was holding Isabel's hand, she was eight years old at that time. Lola, her mother, had signed her up for what we though was a programming workshop for children: later on we realised it was a club: CoderDojo. The repercussions of that first contact have extended to this day, and they got our family and lots of other people and families involved when we assumed the management of CoderDojo BAG, at the Ángel González Municipal Library, as an extension of Medialab Prado.

CoderDojo is one of the many activities programmed at Medialab. It is one of the most long-running activities, since it's taken place every Saturday without interruption since 2012. It was pioneered by Mónica Montoya and Sergio Galán during their time as mediators. It is a programming club for children and young people (usually the age range is from seven to seventeen, but there are exceptions). We organise the club in learning groups for each of the programming languages we use, from the most accessible one for the youngest kids (block languages like Scratch and App Inventor) to those that will most likely be of use to them during their student and professional lives: website development, Python,[8] Unity, Processing... There is space for playing with a Minetest and Minecraft group,[9] and this year we opened up a group for Arduino[10] and the basics of robotics. The mentors are in charge of organising the groups, suggesting the subjects that are going to be taught and the projects that the ninjas (that's what we call the kids at CoderDojo) are going to develop. It is not a formal education course, with exams and titles, but rather a more informal, enjoyable, and collaborative kind of learning (which doesn't mean it's not in-depth; I've seen ninjas do amazing things, really clever stuff). The job of the mentors deserves the highest of praise: there'd be no CoderDojo without them.

From those early days, when Isabel and I joined Mónica and Sergio's Processing group, I remember Alfredo Calosci, delightful as a teacher and as a person; Yago, who first taught us about Arduino boards... Isabel was so

8 Python is a multi-paradigm, free and open-source programming language. See https://www.python.org/.

9 Minecraft is an "open world" videogame based on structures made out of blocks. The Minecraft creations of the Medialab Prado CoderDojo can be seen at https://thefunambulista.tumblr.com/.

10 Arduino is a platform for the development of open source hardware boards, really useful for quickly creating electronic prototypes. It has an open source design. See https://www.arduino.cc/.

young that I had to type in the code in the computer: "Daddy, you've left out a semicolon... again".

Apart from CoderDojo, we also started attending other workshops, by now as a family. Beehives and bees, 3D photography, robots, 3D printing... At Medialab we found a fascinating space for culture, science and technology in an activist environment, concerned about ecology, social movements and the questions that arise with every step forward in the technological world.

The twins, Santi and Julia, joined CoderDojo in 2014, at the age of seven. Our Saturday afternoon routine was this: pick up the laptops (to each their own), walk to Atocha, stop off at La Caña or at the CaixaForum cafeteria to grab a coffee, and once we reached Medialab, help to prepare the session for that day: setting up the tables and chairs, laying out power strips, preparing projectors... Maybe another coffee from the machine next to the auditorium on the second floor and... let's get programming!

Over time, our ninjas went through Processing, Scratch,[11] App Inventor, Minetest... until they reached Web Development and Creative Programming with Joaquín Mendoza. During this time, Lola has been the mentor for Scratch, Minetest and App Inventor. Me, on the other hand, well I'm part of the Arduino group as an apprentice mentor (my masters are two geniuses, Matías and Pablo, who are sixteen and seventeen years old, respectively). On Thursday afternoons I'm also in the CanSat[12] group that Silvia, the Medialab mediator created. Isabel, who is fourteen now, is now in charge of the Websites group as a mentor, standing in for Joaquín for a while. This is helping her to consolidate her learning (they say that if you teach, you learn twice), as well as to grow as a person, and to have the experience of dealing with the ninjas - who sometimes behave like real lizards.

On the other hand, three years ago Lola and I restarted the CoderDojo that Mónica and Sergio had started at the Ángel González library, which had been shut down. The initiative was part of an expansion of the Medialab concept into the neighbourhoods, through municipal libraries and cultural centres. We then had to look for mentors and interested families. The Medialab philosophy of being free and collaborative has always been the guiding light behind our work here.

Something worth highlighting is how extremely important the mediation team at Medialab Prado is. If the mediators are good, responsible and involved in the project (as is currently the case), they make the working groups feel that they are being supported, and they help work and ideas to flow properly. Unfortunately, it's not always been like this during the time we've been here.

Since that first day, six years ago, when I first arrived at Medialab Prado, holding Isabel by the hand, until this day, there has been a change in me and my environment, we've both been enriched. I've been in contact with people who are restless, people who are prepared and talented, people who want to DO things, not just think about what they would do if they could. I've learnt a lot! And I've taught as much as I've been able.

Lola Martín, Manuel Patiño, and their children Isabel, Santiago and Julia, use Medialab and actively participate in the programming workshops for children at CoderDojo.

11 Scratch is a programming language specially designed for ages eight to sixteen, which allows users to create stories, games and animations.

12 To learn more about CanSats (systems the size of a soda can that simulate a real satellite), have a look at the text about BioCrea.

Messing about with the La Kalle association

Juan Flores Morcillo

In the spring of 2015, one of my colleagues suggested I should meet Inés Bebea, a mediator-researcher at Medialab Prado. I had never been to Medialab before. As soon as I went in, I was knocked out by the beauty and originality of the building, and by how welcoming the space was. The purpose of the meeting was so we could get to know each other and share possible synergies between the project Inés had been working on in Medialab and our job placement projects in the microcomputing field.

Inés' research was aimed at exploring philosophical, educational and artistic aspects of information and communication technologies (ICT) in the field of education, work that would later become the *Critical Digital Literacy* guide[1]. We could see there was an opportunity for us to work on many of the concerns we were raising, and for us this was a new way to understand and learn from a different perspective, and to develop everything we'd been working on in the field of training in a different space, and to get to know new people, projects and communities.

We signed up for a series of workshops we called "Messing About", which took place twice a week, in the evenings. It was a way to make our project known, to exchange things we'd learnt and sometimes difficulties based on a collaborative, peer-to-peer format, something the young people we work with aren't used to.

Messing About was created as a space where we could reflect on the use of technology in our lives, a space where we could break down barriers and awaken critical thinking. A space to make the most out of ICT, without relying too much on them, and to remind us of and to strengthen the executive functions of human intelligence. Messing About attracted elderly people in the neighbourhood who were keen to get acquainted with technology, people who were having trouble with their computers' hardware or software, people who wanted to collaborate with their experiences or their professions, people from other projects who were looking for synergies or collaborators they could work together with...

One of the things that always worried me was how spending two days a week outside our natural training space might affect the normal course of the classes and the attendance. I thought about all the protocols you usually find in any of our cities' public spaces, which can make the activities not viable or can become an excuse our young attendees can use so as not to turn up. But the effect was the opposite. The good reception we had and the confidence they have always had in us, not to mention the facilities and the willingness

1 Inés Bebea, *Alfabetización Digital Crítica: una Invitación a Reflexionar y Actuar, (Critical Digital Literacy: an Invitation to Reflect and Act),* BioCoRe, 2015. Available for download (PDF): https://www.oei.es/historico/salactsi/alfabetizacion-digital-critica-ines-bebea.pdf.

The workshops were a way to make our project known, to exchange things we'd learnt and difficulties based on a collaborative, peer-to-peer format, something the young people we work with aren't used to

of the space's human team, generated in each of us a sense of belonging, of being part of Medialab, of actively taking part in and being more than willing to become involved in any proposal thrown our way.

I will always remember the challenge presenting Messing About in Un Año en un Día (A Year in a Day)[2] posed, when we told them that they were going to have to present the project, because it was them who made it possible for it to work and develop. The fabulous work Antonella Broglia and Hervé Tchuhou put into preparing the presentation, something that Hervé carried out with all the passion and love he's always had for the Messing About project, was experienced by the rest of the participants with the emotion of seeing their work recognised and appreciated.

As part of Medialab we have participated and collaborated with other communities in different activities and workshops. For example, at the A Year in a Day Festilab we organised a workshop for children and their parents, and we could see how they enjoyed sharing, teaching, and helping others to understand, learn or resolve doubts about the different electronic and electric components that are inside the black boxes in our classrooms, cultural centres and homes, which are a mystery for lots of us. Another activity was Repair Café, an informal space in which to repair all sorts of everyday objects, looking at them from a different perspective and giving them value, sharing all sorts of experiences and knowledge with experts or amateurs, and repairing IT equipment and other electronic devices.

2 A Year in a Day is an open day that is held every year at Medialab to present all the projects and initiatives that are carried out throughout the year. Messing About was presented in the 2016 A Year in a Day. See https://www.medialab-prado.es/videos/cacharreando.

I will always remember the challenge presenting Messing About in Un Año en un Día (A Year in a Day) posed, when we told them that they were going to have to present the project, because it was them who made it possible for it to work and develop

We saw that we needed to share all these experiences we had been acquiring. And so, we started to out on workshops in other spaces, outside of Medialab. In the summer of 2016 we landed in Vallecas, the neighbourhood we come from, and we repeated Messing About in the neighbourhood's programme of activities. It went down really well, because Vallecas is a neighbourhood where digital literacy and access to technology is not all that widespread.

During all the time we've been taking part in Medialab, we've known and shared projects, experiences and philosophies that will not be forgotten by most of the people who have visited the centre. That's why I feel my time in Medialab has been a very enriching experience. Nowadays I'm still connected to it and I'm still involved in both professional and personal projects there, and the La Kalle Cultural Association still collaborates with them every time we are invited (we were involved in Grigri Pixel, in Interactivos?, etc.).

Medialab has also been the seedbed for ReutilizaK, a project based on the circular economy that evolved out of the Messing About experience, with the support and endorsement of Medialab. The goals of ReutilizaK are the social and labour placement of young people in a situation of social vulnerability, and the promotion of reuse as a means to reduce electronic consumption and to contribute to digital inclusion and environmental sustainability. This objective is achieved through the development of a new economic activity that promotes the reuse and subsequent recycling of electronic devices in a regulated way.

Medialab has been the seedbed for another two projects: ReutilizaK, based on the circular economy, and Fablabteka, a space for the production of physical objects

Another project is the Fablabteka, a space where people can produce physical objects on a personal or local scale and that has different machines controlled by a computer. It is based on the *do it yourself* and the *do it with others* philosophies, and the open-source software that characterises the maker movement[3]. The goal is to improve overall skills through a tailored training model in digital manufacturing spaces and related companies, bringing young people closer to an emerging field with a vision for the future. Here at the Fablabteka we have collaborated with the Puente de Vallecas Experimenta project[4] through activities such as Demo Day that are designed to introduce the neighbourhood to the Fablab space, and by running a manufacturing and prototyping workshop for selected projects.

I will always be grateful to all the people who make Medialab a space in which to experiment, learn and share. I have felt at home, surrounded by a team of professionals who were always willing to collaborate or help in any way possible. Thanks to them, projects that are in the incubator can become a reality. Ours did.

Juan Flores Morcillo is a coordinator at the La Kalle School of Technological Innovation, a non-profit association founded in 1986 that supports the overall development of people in a situation of social risk or exclusion in the district of Vallecas in Madrid.
http://www.lakalle.org

3 To learn more about the open source philosophy, see the text about AVFloss by Elena Cabrera. Maker culture, for its part, is sometimes associated with the third industrial revolution as a cultural movement that subverts traditional manufacturing with concepts such as open-source code, personal manufacturing and digital manufacturing. See https://www.medialab-prado.es/programas/fablab-laboratorio-de-fabricacion-digital.

4 See the text by Jorge Martín about Puente de Vallecas Experimenta.

The community laboratory as a learning methodology

Carmen Haro

I arrived at Medialab Prado when we were unwittingly getting ready to change everything in Madrid. It was 2009 and I was just finishing my journalism studies and I'd already been active for some years in community media, focusing all my enthusiasm towards social action. One day, a friend of mine invited me to listen to him pitch his project at an OpenLab Friday[1]. I was surprised to find a group of people there who had gathered together mainly for the pleasure of meeting up with other people, sharing interests and views. From there on, I was hooked on those sessions. I always met really fun people and afterwards, while we had a few beers, the conversation always turned to how art and technology could change reality.

1 OpenLab Fridays are weekly get-togethers that seek to establish a close relationship between users and the overall Medialab Prado project, through workshops, project presentations, conversations or informal gatherings.

At Agrolab Madrid - Open Agriculture Laboratory we began by getting sixty people to take part in a participatory process in Perales de Tajuña. Currently, the model has been replicated in El Escorial and Móstoles and it has been recognised by the FAO as a successful project at the international level

One year later, my time was divided between my doctoral thesis, the steering committee of the CSA Tabacalera in Lavapiés[2], and those meetings in a basement full of enlightened people. Both were intimate and porous spaces. The communities in both places moved from one to the other to

2 To find out more about the La Tabacalera Self-managed Social Centre (in Spanish, Centro Social Autogestionado or CSA), see http://latabacalera.net/.

create politics or culture or to dance. We were at the meeting point between institutions and citizens, modelling the borders and proposing new models of creation and coexistence. In May 2011, emotion and a feeling of responsibility were unleashed by those networks of affection and action. The spaces that had accommodated the speeches and practices that burst forth from the 15M movement responded to the plazas. Medialab Prado, which had been an institutional reference space for the promotion of free culture, the commons concept and collaborative work, joined that response. I remember some of those gatherings at that time, which sought to give visibility to the movement and to understand it. I gave my first lecture in one of them. Adol-

Sometimes, institutions are fascinated by the discourse, but not so much by the practices. And the projects are beautifully constructed, but empty. Or we try to develop open, decentralised and network practices in centres that are closed, hierarchical and vertical. Each risk embodies a barrier we can collectively reflect on

fo Estalella invited me to talk about my research on digital communication in the 15M movement, and those that preceded it. My voice did not tremble.

I attended meetings and lectures for a few years and I participated in lots of projects as a collaborator. In 2014, I submitted my first proposal, within the Escena, Humor y Ciencia Ficción (Stage, Comedy and Science Fiction) programme, which was all about developing collective popular science projects, under the mentorship of Miguel Noguera, Cristina Blanco or Canódromo Abandonado. My proposal, "Intelligent lives", involved building a radio to contact aliens and to prove to them, through the use of humour, that we are in fact intelligent beings. The B-side of the project was a serious defence of citizen band frequencies and citizens' right to communicate. In one week we built a radio, we hacked the signals of the biggest radio stations in a symbolic area, we sent messages to the aliens, and I met the guy who's now my partner. He gave me the gift of a joke, and I transmitted it to the stars.

I already saw Medialab Prado as a space in which to collectively develop innovative ideas while really enjoying the process and at the same time weaving a network of affections amid common interests. But it also granted me the theoretical and experiential framework I needed to shape the practices I had internalised as an activist in community media, social centres and plazas. In 2015, I had the opportunity to think about how we could transfer the philosophy and practices of Medialab Prado to the rural environment of the Region of Madrid, together with the Madrid Institute for Rural, Agricultural and Food Research and Development. The result was Agrolab Madrid - Open Agriculture Laboratory[3], an experimental project focused on participative agriculture as a vehicle for agricultural and rural revitalisation and its connection with urban areas. We began the project by getting sixty people to take part in a participatory process in February 2015 in Perales de Tajuña, and the model we used has been replicated in El Escorial and Móstoles, with hundreds of people taking part in it, and it has been recognised by the Food

3 To find out more about the Agrolab project, see https://www. medialab-prado.es/ proyectos/agrolab-madrid-laboratorio-de-agricultura-abierta.

and Agriculture Organisation of the United Nations (FAO) as a successful project at the international level.

Throughout this journey, Medialab Prado has always been a reference and our meeting point with the city. With the support of Chema Blanco, first through PermaSource and later with CiCiLab[4], we organised meetings to analyse the role of towns in the fight against climate change, agroecology as a new economic model for the common good, and even citizen science workshops whose purpose was to build weather stations with open-source software. After this experience, my interests expanded towards questions related to sustainability, territory and citizen science. And it all fitted in with the subjects I had previously studied and worked on. Because one of my biggest lessons from these processes was that transversality in fields of knowledge brings you a little closer to freedom.

In that way, while I developed those projects, I also built a career as a teacher and researcher. In 2013, I began teaching a new subject at the university, Online Participatory Journalism, a reflection of the times we are living in and yet another opportunity to apply what I had experienced at Medialab Prado. Over the past six academic years, I've been working on a methodology that gets students involved in all aspects of the subject in order to collectively develop journalistic prototypes that respond to problems that affect them directly or indirectly. After a few group projects, we launched *Newslab* in 2016, a journalistic project developed among sixty people that responded to the needs detected in journalism training. And in 2019 we started *Journalism for the Climate*[5], a pioneering collective media focused on reporting on climate change. These experiences have allowed me to verify that this model of transdisciplinary, open and online practices fosters cooperation, creativity and each student's potential capacity to understand their reality and to try to change it by intervening in it. Focusing on doing things from a critical perspective.

Nowadays I combine my work as a teacher and researcher with designing social innovation projects for different institutions. And, in each action, I try to apply the three characteristics that define Medialab Prado: open, collaborative and experimental. Open, meaning that I try to make each project available to people with different profiles, so we can all exchange knowledge and experiences. And, to achieve that, the design of the call and the contact with social agents are very relevant aspects. To ensure that our actions don't become encapsulated in privileged circles. I also apply the principles of free culture, and everything is done under licences that make it possible to replicate, modify and redistribute what we produce. Secondly, these are collaborative projects, as they're aimed at collective creation, with different levels of participation, depending on people's interests, abilities or skills. The goal is to produce a common good, to respond to a collective demand, or to propose a solution to problems that affect a specific community. And they're experimental, because we collectively create without worrying about making mistakes. With our sights focused on the process as much as on the results.

I feel that those of us who inhabit Medialab Prado are connected, just the way this space is, to social reality, and at the same time, to transforming visions. And this makes us evolve at the same rhythm as the centre. We also face the same risks when we develop collective creation practices. Sometimes, institutions are fascinated by the discourse, but not so much by the practices. And the projects are beautifully constructed, but empty. Or we

4 PermaSource is a research project on the appropriate conditions for the emergence, creation and continuity of communities that tend towards self-sufficiency, based on three pillars: cultivating the land, inter/intra-community organisational models, and the production and use of open-source software and hardware tools and processes. More information at https://www. medialab-prado.es/videos/ permasource. CiCiLab, Medialab Prado's a citizen science laboratory, promotes activities in which people participate in or develop scientific research projects. CiCiLab has coordinated the European Project DITOs in Spain, leading activities related to environmental sustainability. More information at https:// www.medialab-prado.es/ laboratorios/cicilab .

5 See https:// periodismoxclima.home. blog/.

try to develop open, decentralised and online practices in centres that are closed, hierarchical and vertical, when it's the structure of the spaces that accommodate the projects that greatly determines the nature of the activity. Way too often we're not able to overcome discriminatory dynamics. However, each risk embodies a barrier we can collectively reflect on. The dynamics will ensure we meet again just for the pleasure of sharing what we are passionate about, what affects us or worries us. It will invite us to think collectively about solutions and strategies for each new scenario, and to keep weaving these networks of actions and affections that generate everyday transformations.

Carmen Haro holds a PhD in Communication and Social Sciences and works as a professor and researcher at the Rey Juan Carlos University of Madrid. Her action-research approach has focused on the development of open and collaborative cultural processes in different contexts: from self-management to university, institutional and laboratory environments that are jointly managed by citizens and institutions. She is currently developing a project on art and citizen science in the face of climate change at Madrid City Council, and she has premièred her first feature film at the European Film Festival in Seville.

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A music workshop in Villaverde Experimenta

Víctor Manuel Clemente Moneo

One afternoon in October 2016, sitting on the couch at home just browsing through Facebook, I came across the Medialab Prado Villaverde Experimenta website[1] which was presenting a programme to carry out socio-cultural projects in Madrid's Villaverde district. So, just like that, I thought I would send in my idea for a "music workshop", a space where neighbours could meet... to make music. It was that simple, I didn't go into any more detail.

I already had some ideas as to what it would involve, since I'd worked on a Region of Madrid programme called Aulas Abiertas (Open Classrooms) which was basically all about using the music rooms of different state schools in the most disadvantaged districts of Madrid outside school hours, so that everyone - children, young people and adults, from nought to ninety years of age - could come and learn how to set up or take part in dance or music groups. This programme was an attempt to make up for the lack of this type of activity in cultural centres. Although it meant well, the results were insufficient for two reasons: one, there were hardly any instruments; and two, it wasn't possible to keep it going for administrative reasons.

Some years later, I thought that maybe this would be my chance to continue that beautiful idea.

It'd been years since I'd been involved in any musical activities and I'd missed and I still miss them: there's more to life than just dedicating your life to surviving and working hard all the time. To feel that life is worthwhile, you need to socialise and you need to spend your free time on creative and cultural activities that help to improve our neighbourhoods. Activities shared with other people that make us feel good and happy. And, in my opinion, if you're going to achieve this goal, then music is your best bet; it doesn't matter if it's playing an instrument or singing or dancing because it's been proven that these activities improve our personal and social self-esteem.

To tell you the truth, I didn't think that anybody would pick up my message with its shall we say rather odd idea.

So you can imagine how surprised and how perplexed I was when, a few days later, I received notification that my idea for a music workshop had been selected along with nine others that were going to be developed in the district. We were invited to attend a meeting one Saturday morning in the Boetticher Nave, which had been closed ever since its inauguration back in 2012[2]. I asked a friend to come with me just to back me up, given how insecure I felt about what that this was going to entail, how many people would be there, whether I would know anyone... Besides, I was sure that I'd have to explain my project in person, and I'd

1 You can find information about Villaverde Experimenta in Experimenta Distrito's general Facebook profile: https://www.facebook.com/ExperimentaDistrito/, nd on the website https://www.experimentadistrito.net/villaverde-experimenta/.

2 Located in the former Boetticher lift factory in Villaverde, the Nave is a public facility that Madrid City Council has set up for innovation, the dissemination of new technologies and collaborative activities. See http://www.lanavemadrid.com/.

It was Carmela who really got me going with her unconditional presence and collaboration; she gave me the drive to keep at it. And that's how the great idea came about: a future home for the arts in Villaverde

have to admit that I felt somewhat intimidated by that. Fortunately, everything fell into place very easily, because the people who were involved in the Experimenta Distrito programme were friendly and reassuring and they made you feel confident about being there and presenting your project. They always took the edge off things and created a relaxed atmosphere to make sure the meeting went smoothly and pleasantly, as in fact it did. We were all in a circle of some one hundred people in a large glass-enclosed room next to the main hall. Excellent professionals of whom I have fond memories.

The Nave is a construction of great beauty and plasticity into which a great deal of money has been poured for its rehabilitation and maintenance. However, in spite of the quality of the space and its facilities, both of which are so needed in the district, it doesn't really seem to produce any benefit for Villaverde. In fact, right from the start we were all agreed that one of the demands would be to reclaim that space for the use of the people who live in Villaverde. As you know, that has never been the case, except on rare occasions[3], which had given rise to a lot of disappointment, disillusionment and frustration.

The day came when we were to meet the other participants (ten groups, ten projects) and, lo and behold, some people turned up who had registered for the music workshop. On that first afternoon we had the pleasure of meeting: Jean-Marie from Rwanda; two young people from Algeria; a young Moroccan lad; Carmela Luna, a 20-year-old girl who was learning to play the saxophone and whose parents had also drawn up a project for Villaverde Experimenta; and me. There was another person there that day, Juan Luis. Although he only attended one session, his contributions were decisive for the outcome and the final conclusion of the project.

That first meeting was very special. The variety of people in terms of age, gender and background made for a really interesting group that reflected the reality of the diverse society of 21st century Villaverde. All the workshops were presented and we had to give a brief overview of the ideas and people involved. We prepared a short African canon that turned out to be great fun and reaffirmed the idea that music is the most universal language because, even though we found it hard to understand each other in words, there was no such problem when it came to music.

After that first meeting, the next few sessions left us feeling somewhat disconcerted: Jean-Marie, Dakkouch and the Moroccan boy didn't turn up and in fact they never came back. As we hadn't taken their contact numbers, all we were left with was the magnificent memory of that really satisfactory first meeting. And also the fact that what they wanted to do was to play percussion instruments such as the yembé and darbukas.

Suddenly we found ourselves more or less alone in a sea of doubts, with an idea that seemed impossible and was unlikely to get off the ground, just me and Carmela on our own. Actually it was Carmela who really got me going with her unconditional presence and collaboration; she gave me the drive to keep at it. We called Juan Luis, who created a web page and a Facebook page to spread the word about the project and he encouraged us to check out other musical projects that had been carried out in other areas or countries.

[3] In 2017, after a tender called by Madrid City Council, the contract to provide support for the management of the Boetticher plant was awarded to Innova Next SLU, a Barbés.biz company. Source: Madrid City Council press release, 17 November 2017.

And that's how the great idea came about: we started dreaming about a future home for the arts in Villaverde. It was Carmela who put that great idea out there, with that magnificent name: The Villaverde House of the Arts. A project that could only come from a young head full of enthusiasm and with no prejudices or limitations. She made a large mural full of fantastic drawings that represented a path that starts off from an exploding idea (the meeting at the Nave where two small people are giving each other five) and runs through different stages and difficulties until in the end, there it is: a beautiful house of the arts in the Nave Boetticher.

This first phase allowed us to learn about other people's experiences building similar spaces in which they could share things, learn and develop musical activities. We discovered that there were similar projects in Colombia, in Brazil… and in Venezuela where the El Sistema programme, which began in 1975, has succeeded in getting hundreds of thousands of children and young people from the poorest and most remote places to form orchestras all over the country (one of those children is the world-famous conductor Gustavo Dudamel). But where we came across the most surprising experience was in Spain, in Valencia no less, the place we might well call "the land of two thousand marching bands" seeing that even the smallest villages have their own band made up of neighbours of all ages.

All this allowed us to move from the initial idea of a music workshop to

From the initial idea of a music workshop we moved onto a more specific one: Villaverde's first marching band. The embryo of the band would be small musical workshops held all over the district in which neighbourhood associations and state schools and so on would play a leading role

a more specific one: Villaverde's first marching band. The embryo of the band would be small musical workshops held all over the district in which neighbourhood associations and state schools and so on would play a leading role. The project would require significant institutional support, spaces and funding not to mention a change in the current paradigm on arts and culture in Villaverde (a district with a population of 145,000 inhabitants).

At the start, the project had continuity. In February 2016, Local Forums were set up in Madrid and I was elected coordinator of the Culture Working Group. As a result, when the City Council set its participatory budgets in motion, the Culture Group presented a project for a Villaverde Teaching Band, which was approved with a budget of twenty-five thousand euros. An incredible success. But the fact is that the project has never gotten off the ground in all these years and no one has contacted the Culture Group to ask for information or to make it happen. Other projects promoted by the Culture Group of the Local Forum of Villaverde have taken place, such as the Ukrainian Week, the Books Clothesline (an opportunity to swap or donate books) or the VillaSound music festival for local groups. But ours hasn't.

Víctor Manuel Clemente Moneo was born in 1955. As a child he was fascinated by music, but he wasn't able to study or practice it as he would have wished. Today he is a taxi driver and, although he's had to relegate music to the back seat, he still finds it fascinating and considers it to be a need that public policy makers should take very seriously.

Art and technology: mosquitoes buzzing in the neon light

Mónica Sánchez

I'm not exactly sure who it was that introduced me to Medialab. It might have been a friend who told me about some people who were doing some really interesting things related to electronics and free software at the Conde Duque Cultural Centre, which is where Medialab was based at that time[1]. Or maybe I heard about it in one of the online communities I used to frequent, where they were already beginning to talk about concepts such as Processing, a programming language for designers, or Arduino, an open-source electronic prototyping platform that allows users to create interactive electronic objects.

Up until then, it hadn't been at all easy to find spaces where these forums would take place, and those of us who were concerned about such things and found out about them were attracted to them like mosquitoes buzzing in the neon light. On one occasion, and entirely by chance, we were in a bar called La Bicicleta, in Calle Mira el Sol, in Lavapies, and the artist Zach Lieberman was there[2]. We couldn't believe it! He was putting on a "magic" show with an overhead projector and a camera that he was using to project the shadows of his own hands onto a screen, creating digital forms he breathed life into and interacted with, while making them disappear and appear again. Maybe it was this brilliant artist who told us about Medialab, or maybe a few people in the audience mentioned Medialab while we were chatting. What I can say for sure is that those were really exciting times, so I suppose the fact that Medialab came into my life was not because somebody or somebody else mentioned it, it was more like Medialab was already part and parcel of that Madrid scene and it was a happy mix of all those experiences.

I remember the first time I visited Medialab. I went to help out at the Interactivos? event in 2007, which was dedicated that year to magic and technology[3]. About thirteen years ago now... OMG! Every time I think about it, it gives me the shivers! I was in my twenties at the time and, although just thinking about the time gone by makes me giddy, I have fond memories of the bar on Calle Limón where we used to meet for a few beers after endless Interactivos? sessions to enjoy the magic tricks some of the people attending would do for us. Just being in the midst of those colleagues, artists, mentors and collaborators completely changed my perspective on things. The fact that I was able to participate in an event where open source software, creativity, electronics and programming were being used for artistic purposes, and where criticism and activism were very much to the fore, made me think about what I wanted to do with my life. At that time I had no idea I was going to meet people who would teach me so much about creative programming.

1 Medialab was set up in 2000 at the Conde Duque Cultural Centre under the name MediaLab Madrid. In September 2007, they moved to the Plaza de las Letras, on the ground floor of the former Serrería Belga (The Belgian Sawmill) and they changed the name to Medialab Prado, in reference to its new location beside Paseo del Prado.

2 Zach Lieberman is a North American new media artist, designer and programmer whose work has been showcased in digital art events all over the world such as Ars Electronica, Futuresonic, CeBIT or the Off Festival. He has received the Ars Electronica prize twice and in 2005 he was nominated for artist of the year by *Wired Magazine*.

3 For more information about the Interactivos? programme, see the BioCrea case study. About Interactivos?'07 Magic and Technology, see https://www.medialab-prado.es/actividades/taller-interactivos2007-magia-y-tecnologia.

I ended up building a friendship with them that in some cases is still going on today, and from which we nourish one another.

That initial contact suddenly made the word *interaction* take on a new meaning. It made me aware of the potential and the possibilities that spaces like Medialab generate all around them. If you're an inquisitive person, Medialab can give you the chance to make contact with people and with knowledge that you maybe thought you'd never be able to acquire in a city like Madrid. Sometimes it seems that this only happens in other European capitals. Since then, I can honestly say that I have tried not to lose contact with Medialab and whenever I can, I attend events such as Visualizar, Interactivos?, etc.

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In its history, I witnessed its move to Medialab Prado, when it hadn't yet taken over, as it does now, the entire Belgian Sawmill building, only the Fablab part (the digital manufacturing lab, or the "garage", as some of us liked to call it), where it seemed we were pioneering something new.

In my experience, my time at Medialab has allowed me to connect with, get to know and learn from people I consider fundamental to the *do it yourself* movement, people like David Cuartielles, Ben Fry, Zachary Lieberman, Julian Oliver or Chris Sugrue, who, for anyone who doesn't know them, are the founders or creators of open tools such as Arduino, the electronic board, or Processing or Open Frameworks, the programming environments[4].

I do have to admit, though, that I had a bit of a dry spell with Medialab due to the fact that I moved away from Madrid for a few years. Now that I'm back, I've noticed that things have changed for Madrid and also for Medialab. As you would expect, I got right back into the hustle and bustle and the intensity that comes from being involved in the projects that are still being actively carried out here. I've been able to see how the Medialab family has grown and is becoming more and more numerous and dynamic. To be specific, I am taking part in an initiative called Grigri Pixel, which fosters the exploration of artistic practices and digital manufacturing, putting African artists in contact with local communities[5].

How would I like to see Medialab in the future? I'd like to see that rebellious and restless spirit of the early days, where everybody collaborated with everybody else, where the knowledge that leading experts provided was something for everybody, without having to pay large amounts of money to attend an event or acquire such learning. And although I know that Medialab Prado has always taken care to build a community, I wouldn't want to see it becoming some elitist kind of place where only a few people end up benefiting from all this knowledge.

To add just a little criticism, as a user, I think that one of the problems Medialab has always had to deal with as an institution is how to come up with a formula that makes the local residents feel involved in this community. Sometimes it seems that the public doesn't consider this space as their own

4 OpenFrameworks is an open source tool for creative programming aimed at artists and designers. To learn more about Processing, see Elena Cabrera's text on AVFloss. To learn more about Arduino, see the itinerary of Isabel, Santiago, Julia, Lola and Manuel.

5 To learn more about Grigri Pixel, see Carolina León's text about MadridForAll.

when it has always been just that, a place known for its welcoming and plural attitude towards new projects, ideas and people.

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To tell you the truth, the Medialab I remember from twelve years ago and the current Medialab I nip into every so often for a coffee and to work on my thesis, are worlds apart. I could never have imagined what a great machine it would turn into. It has certainly far exceeded my expectations, and that makes me very happy! Today, unlike the original Medialab, children take over some of the spaces inside the building, something that should have come about quite naturally, given the synergy of the project, which I'm sure will help to generate memory within the neighbourhood, making room for play within the big city.

Mónica Sánchez is currently doing her PhD in Computer Science and Technology at the Carlos III University in Madrid. Her research is focused on the development and evaluation of an interaction model within a context of civic motivation for smart cities.

My experience at Medialab Prado: from research to understanding

Andrea Estankona Loroño

I joined Medialab Prado in 2014 to begin a period of research related to my doctoral thesis. For a year, it became a space in which I could work and learn and, at the same time, a place for relationships, communication, collaboration and emotions in a city that was not my own. Thinking back to those days, I realise that it was also an exceptional place in which to experience the process of transformation that the city, the centre itself and I myself were going through.

Research, as anyone who has been a researcher knows full well, can be a lonely job that can plunge us into a theoretical field that tends to raise a boundary between our work and our life. That is why, right from the start, being part of what was really a community of practice, and feeling that I was not alone contributed decisively to changing my perspective and redefining my priorities.

My thesis was based on the conviction that there was a need for a new institutive narrative for art and cultural practices. The narrative that was being proposed was institutive and not institutional because it had to do with initiating a critical project that, based on self-awareness, would go beyond the autonomous circle of the art institution and expert knowledge. It was not so much about proposing a model as about activating a tentative and experimental way of thinking that would identify its social meaning.

In those days, perhaps more than any other city, Madrid was transmitting a "the times they are a-changing" vibe and an energy that was destabilising and opening cracks in the hegemonic groupthink. The political dimension entered the scene, affecting all areas of activity. The term "social" was disputed. By and large, the Medialab Prado community shared the objective of my work and explored, among other issues, the forms of experimentation and collaborative learning that had emerged from digital networks through

the development of projects that somehow attempted to hack into the institutional and at the same time the social.

To hack them would be to give them new meaning. It was essential to find new narratives and new imaginaries, from alternative symbolic operators to the monetisation of life in terms of big data[1] and the techniques of emotional manipulation that are characteristic of advertising and propaganda. Art needed to create a new institutive narrative. Transcending as it did the cultural practices associated with the creative economy, this narrative could not be born out of impotence and fear. Nor could it be satisfied with being aesthetised merchandise. Nor could it close itself up in a self-absorbed defence by becoming an identarian, precaritized, self-referential and complicit minority. It needed to do so from a humble and responsible stance, assuming its role as one of the forms of knowledge, in permanent dialogue with philosophy and science, nature and technology, asserting its role in sustaining life and in giving dignity, meaning and value to the human experience.

We shared the task and also the day-to-day work it involved, and that sharing, that community of practice, implied having to abandon the researcher's relative intellectual comfort zone. You could no longer isolate yourself from a daily reality fraught with anxieties, insecurities, technical and personal problems, in a continuous tension between expectations and achievements. In thinking and creating Medialab Prado, the theoretical framework was confronted with reality and reality was no longer an object of research, but rather what shaped the experience. This dynamic is what made me assume Hannah Arendt's teaching when she said that we can only think in a rigorous manner from experience, from a vigilant partiality, maintaining an attentive and resistant attitude to reality. In short, all we could do was try to understand, and to do our best to share that understanding.

Medialab Prado was a meeting place for international researchers, people who were working on rethinking the city's cultural policies, groups that were focusing on specific problems, activists, mediators and people who were just passing by and had popped in to ask a few questions

Understanding the reality that we were experiencing went far beyond the subject matter of my thesis and led to a more complete and enriching vision of context. I was living in Calle Santa Isabel, just between Lavapiés and the Barrio de las Letras literary quarter, a ten-minute walk from Medialab Prado (a luxury in Madrid). We used to get together for a few jars in the nearby bars. My day ran parallel to all the Medialab Prado activities, but it's safe to say that I never learned more than I did from the conversations we had over a coffee or a beer on the fringes of the official programme. If there was one thing about Medialab Prado, it was that it was a meeting place for international researchers, people who were working on rethinking the city's cultural policies, groups that were focusing on specific problems, activists, mediators and people who were just passing by and had popped in to ask a few questions. We would talk about feminist movements, digital sovereignty, political activism, ecology, artistic practices, the future, and all without any kind of disciplinary rigidity, sharing things and trying to ensure that no one felt left out.

1 Big data, macro data - or data intelligence - refers to data sets that are so large and complex that non-traditional computer data processing applications are needed to handle them properly. The modern use of the term big data tends to refer to the analysis of user behaviour, extracting value from stored data and making predictions through observed patterns. Source: Wikipedia.

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Time went by and I could sense how Medialab Prado was increasingly losing its character as a secret, off-the-radar space, which had allowed it to face the risk of proposals that broke with institutional inertia by venturing into the unknown and admitting that mistakes were part and parcel of the learning process. Paradoxically, this protagonism of becoming a reference produced a certain degree of contradiction in what was a process of growth that challenged and questioned the foundations of the proposal, highlighting its complexity and the need for mediation, not so much with the users, but with the political and institutional framework that depended on the cultural project of the liberal democracies.

In Madrid, we could see how the change was coming quickly. In lots of places, debates and alliances were being initiated that would later give rise to the so-called "city councils of change" and, almost simultaneously, the self-managed Patio Maravillas social centre, the original model for a good number of the city's social movements, was being closed down.

The year went by with a war of words between the strategic discourse (dialogue, critical thinking, research, production, visibility) and the tactic of daily and effective practices, microprocesses, resistant, clandestine, informal practices, that made up the experience we shared in Medialab Prado and that constituted the fundamental mechanisms that allowed us to appreciate the knowledge we had accumulated.

For me, *understanding* began when I realised that my tentative thought experiment could not aspire to end with conclusions that would give meaning to the research. On the contrary, the experiences I had lived, analysed and thought about were merely provisional experiences in a continuous process of rethinking the reality we were living. And that in this process of designing the common from the point of view of art and cultural practices, experiences were, in fact, knowledge. Following the feminist principle that the personal is political, I understood that if we were to create a new institutional narrative we needed to analyse how the power dynamics and the normative frameworks that assigned the capacity to be recognised as an authorised interlocutor were established, and that democratising this debate was the condition that would make it possible to find shared vital signifiers and to fabricate a future.

That understanding was my experience of Medialab Prado, and it created a bond that, even from a distance, has been maintained over time and has been very useful to me in my subsequent career, so much so that I still feel part of that space of work, of learning, that place for relationships, communication, collaboration and emotions, in a city that will always be a little bit mine.

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Hacker ethics and the power of networks

Conrado Romo

Every generation has its myths. For many of us who were born in the 2000s, the idea of hacker ethics was, without a doubt, a narrative that we could relate to, transcend and connect to because of the potential of this idea as a reason to dream of other possible worlds. Even though in those years the Internet was going through an accelerated growth process, there was still a need for references in the Hispanic world in the form of projects that might calm our eagerness to imagine hacktivist movements in our language. There were examples of course, such as Indymedia[1], a website which although it embraced the idea of don't hate the media[2], become the media, an aspiration shared by hackers, punks, and members of the culture jamming[3] movement, paid scant attention to its practice in terms of a new policy for online society; and others such as the Nettime-lat[4] mailing list or the support given to the Zapatista movement by such groups as the Electronic Disturbance Theater[5].

Even though in those years the Internet was going through an accelerated growth process, there was still a need for references in the Hispanic world in the form of projects that might calm our eagerness to imagine hacktivist movements in our language

Even though the desire to deterritorialise political practices seemed at the time to be a promising emerging property of digital technologies (and, over time, that thesis was shown to be right to some extent), some of us still dreamt about finding a formula to materialise what was happening on the World Wide Web, perhaps related to the imaginaries that had been triggered thanks to Hakim Bey and his temporary autonomous zones (TAZ)[6], a powerful narrative that captured minds with its liberating potential and its parallelism with certain situations that could be perceived in the new digital dynamics. Bey described some organisational forms of the electronic rhizome ahead of his time and proposed, we can't say whether consciously or unconsciously, a possible transfer of these dynamics to offline situations, a material world that seemed impervious to any non-hierarchical configuration.

Imaginaries of other territories have always existed, but few events have been as catalytic for the development of utopian thought as the violent encounter between the Amerindian and European communities, particularly productive throughout the 19th century, in which the expectations raised by the promises of freedom, equality and fraternity, and the emancipatory spirit of the inhabitants of the Iberian colonies, awoke optimism about the possibility of building paradise on Earth. The Phalansterian School of Chalco in Mexico, New Australia in Paraguay, or the Cecilia Colony in Brazil[7] are examples of nineteenth century Latin American laboratories that envisaged other ways of being and living in the world. They were, however, experiments that reproduced the logics of power and domination that Europe had propagated throughout the world. Therefore, the pertinent question would be: is it possible to produce spaces that contain online logics and the creative force of the Iberian-American encounter without colonial logics?

There are two possible reasons why I discovered the space. The first could have been a conference by José Luis Brea. Another possibility could have been the Laboratorio del Procomún, the Commons Lab that Antonio Lafuente had launched.

This is where Medialab Prado makes its entry as a presumable answer. There are two possible reasons why I discovered the space. The first could have been a conference by José Luis Brea, a critic I was following at that time because of his Aleph-arts[8] website, a repository dedicated to gathering articles about theories and practices surrounding the net.art movement[9]. Another possibility could have been the Laboratorio del Procomún, the Commons Lab that Antonio Lafuente had launched[10]. The 'procomún' concept spread quickly in certain circles, because it was a Hispanicised form of the discussions about the commons, so popular then thanks to projects such as Creative Commons or texts such as *The Wealth of Networks*, by Yochai Benkler[11]. Regardless of which was first, on a personal level, the project has been a reference for other possible practices at a political, aesthetic and epistemic level. Medialab Prado could well be understood as a heterotopia. If, "as a rule, a heterotopia has to juxtapose in a real space a series of spaces that would usually be, or should be, incompatible"[12], Medialab could be understood as a localizable utopia, an existing fable, a counter-space in which one is allowed to think and exist as an 'other', from the hybrid, from the possible yet real, the mirror with an inverted image of what is not, an inversion that opens potentials, multiple paths, with no destination but with fundamental trajectories.

Medialab Prado is, at one and the same time, a hierarchy and a network, a government programme and a social collective, a physical space and a community relationship; it is a place in Madrid and at the same time it is a decentralised process distributed globally. These tensions turn Medialab into a reference for a new institutional environment built through *ex-titutional* practices[13] (if something close to that is possible). In that sense, we would be facing an exercise that puts into practice the double logic of power presented by Enrique Dussel: *potentia* (the creating power of communities) and *potestas* (as materialisation ad continuity of the synthesis of the creative process)[14].

1 Indymedia is the name given to the Global Network of Independent Media Centres, which emerged in Seattle in 1999 within the framework of the protests against the World Trade Organization (WTO). Within the global network, there were many local antennas, many of them Spanish speaking, of which some of the most active were Indymedia Barcelona and Indymedia Mexico, with its branches in the states of Oaxaca, Chiapas and Mexico City. More information at http://www.indymedia.org/.

2 "Don't hate the media, become the media" is a motto of the media activism movement that sprang up in the 90s and the early 2000s as a critical answer to the emergence of new mass information and communication technologies.

3 Culture jamming is a current that criticises the cultural homogenisation promoted by the mass media. Linked to media activism and artistical practices, it draws from elements such as *détournement* (deviation), mockery, tactical media and communication guerrilla.

4 Nettime was an electronic mailing list created in 1995 by activists and media critics Geert Lovink and Pit Schultz, and widely recognised for its seminal role in the formation of an international community concerned with artistic and cultural practices on the Internet. Nettime-lat was a mailing list specifically for communications in Spanish and Portuguese. The archives of Nettime and Nettime-lat can be consulted at https://www.nettime.org/. For more information, see https://en.wikipedia.org/wiki/Nettime.

5 Electronic Disturbance Theater is a collective of activists, artists and programmers that pioneered digital direct action and electronic civil disobedience. For more information, see https://en.wikipedia.org/wiki/Electronic_Disturbance_Theater and Stefan Wray, 'The Electronic Disturbance Theater and Electronic Civil Disobedience', in *Thing.net*, 17 June 1998, http://www.thing.net/~rdom/ecd/EDTECD.html.

6 *Temporary Autonomous Zone* is an essay first published in 1991 by Hakim Bey, a North American Sufi poet and anarchist, in which he describes the socio-political tactic of creating temporary zones that elude the formal structures of social control. It is available at https://theanarchistlibrary.org/library/hakim-bey-t-a-z-the-temporary-autonomous-zone-ontological-anarchy-poetic-terrorism and it was published in 1991 by Autonomedia and in 2011 by Pacific Publishing Studio.

7 Pierre-Luc Abramson, *Las utopías sociales en América Latina en el siglo XIX (Social Utopias in Latin America in the 19th Century)*, Fondo de Cultura Económica, Mexico, 1999.

8 The Aleph-arts site was active from 1997 to 2002.

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Foucalt established that each society could be described according to the type of heterotopia it produced. In this sense, community laboratories, with Medialab Prado as their key reference, can represent the heterotopia of an online Ibero-American society nourished by hacker ethics, whose contacts and exchanges, whose software (*potentia*), and material infrastructures, whose hardware (*potestas*), characterise the configuration of a new 'other' space, and whose experiment makes up for the mistakes of the colonial utopian laboratories by being built on the voices, sensitivities and aesthetics of the epistemic south. Hence the idea that Medialab Prado, as well as other examples of community laboratories, could begin to be understood as spaces of "liberation", given that they are devices of fission that liberate the creative energy of the collective intelligence imprisoned in social anomia and in the old institutional framework.

Conrado Romo defines his professional practice as being in the field of civic design, metropolitan planning, government innovation and civic engagement, as well as in ex-titutional processes and critical polemology. He currently coordinates the Laboratorio Paz desde lo Común (Peace from the Common Laboratory) in Jalisco (México).

Part of its archive can be consulted at https://aleph. eldiletantedigital.com/ net_art.html. Directed by José Luis Brea (1957-2010), considered one of Spain's most prestigious contemporary arts critics and a reference for the theoretical dissemination and production in Spanish of the first practices of digital, electronic, and new media arts. For more information, see https:// www.museoreinasofia. es/biblioteca-centro-documentacion/archivo-jose-luis-brea.

9 Net.art is an artistic movement of works produced in and for the Internet, that emerged in the nineties. See José Luis Brea, *La Era Post-media. Acción Comunicativa, Prácticas (Post)artisticas y Dispositivos Neomediales (The Postmedia Era. Communicative Action, (Post)artistic Practices and Neo-medial Devices),* Editorial CASA, Salamanca, 2002; Laura Baigorri and Lourdes Cilleruelo, *Net.Art: Prácticas Estéticas y Políticas en la Red (Aesthetic Practices and Policies in the Web)*, Brumaria, Madrid, 2006.

10 Regarding the *procomún* concept, see the text about the Juego de Troncos (Game of Trunks) and the materials of the Commons Lab at Medialab: https:// www.medialab-prado.es/ programas/laboratorio-del-procomun.

11 Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, Yale University Press, 2006.

12 See Michel Foucault, "Topologías", in *Fractal* no. 48, January-March 2008, year XII, volume XII, pages 39-40.

13 Francisco J. Tirado and Miquel Domènech, "Extitutions: of power and its anatomies", in *Política y Sociedad*, no. 36, 2001, pages 191-204.

14 See Enrique Dussel, *20 Tesis de Política (20 Political Theses)*, Siglo XXI, Madrid, 2006.

Transfer of free software to the cultural sphere
Abelardo Gil-Fournier

I first came across Medialab one day in the early summer of 2003. I was at an exhibition at the Conde Duque Cultural Centre in Madrid. At the end of the room, just beside a corridor that led to what appeared to be the offices of the centre, a sheet of paper hanging on the wall revealed the presence of a barely perceptible door, cut out of the white partition. I walked up to the sheet of paper and saw that it had been stuck onto the door with glue, and I read the name of the space that lay behind it: Medialab Madrid. A few days later, after doing a bit of research on the Internet about that space, I returned to the room, to that same white door. This second time I knocked on the door and asked about the activities they were organising there and if there was any way I could take part in them. They were just about to announce a call for internships, they told me. They wrote down my email address and some weeks later, after I'd filled in the application forms, they asked me to come in for an interview. And that's how I started working in the technical area of Medialab, way back in September 2003. I spent two highly intense years there, during which, among other things, I developed a number of really important relationships. I'd just like to point out at this juncture that there's no way this text can avoid the personal bonds I still have with this project, that of a space called Medialab in a city like Madrid.

That Medialab of 2003-2005 was different to the Medialab of today. In those days, it was an electronic art programme that was by and large focused on researching and promoting the critical uses and approaches of what in the field of artistic creation was then called "new media". With this objective, its programme of public activities was articulated around the production of exhibitions and related projects. In other words, through these exhibitions and their in-house projects, they were promoting on the one hand, a programme that had to do with the relationship between art, science, technology and society, which in turn was complemented, on the other hand, by a series of workshops, meetings and conferences. Although that model was criticised for not connecting with the needs of its more immediate context, it did undoubtedly gave rise to a great variety of unique experiences: apart from the exhibitions, what most comes to mind now, for example, is the working group with the biologist Lynn Margulis, the time we put on Arduino's first public workshop, or the debates that took place in the so-called "Medialab Thursdays".

During that time, my work in the technical department basically consisted of providing support for the programme's public activities: setting up the exhibitions and their maintenance, looking after the artists and helping

out at the events that took place. I also had the opportunity to participate in some of the projects we developed during those two years. I was deeply involved in the activities inside the cultural centre at that time. However, the memory I have of that time is one of a parallel and collective debate that took place rather more outside than inside the institution. The recurring theme of this conversation, which went on for ages, was in fact "what is a 'medialab' exactly?" The team's day-to-day work was riddled with tensions that we couldn't alleviate because of the structure of the actual programme itself. Tensions such as, for example, the imbalance in the distribution of knowledge and technical know-how and its repercussions on the dynamics of power, debate and decision; or the contradiction between artistic closed-code practices and the culture of free software advocated by the institution; or the relationship with the audiences attending the exhibitions, who were often critical of the opacity of works made with technological procedures that were difficult to decipher. Tensions, in short, that had to with the issue of access to technological practices, their different cultures and models of crystallisation, which did not admit being reduced to a single form of critical mediation, such as that of the appropriationism practised by a creative and experimental sector.

The memory I have of that time is one of a collective debate about what a 'medialab' exactly is. One of the recurring analogies was that of extending free software processes to the world of culture, beyond the realm of programming. Concepts such as 'commons', 'prototypes' or 'collaboration tools' can be understood from that transfer

I left the team in 2005 to dedicate myself to other projects. Shortly after that, the institution went through a lot of changes, most notably in terms of its new offices and management. And along with the changes, these underlying tensions that had so characterised the previous period were placed - in my opinion - at the centre of the programme, in the form of problems that were explicitly addressed through self-conscious experimentation with different methods and formats of collective participation. This means that - and again this is just my point of view - the focus of attention at Medialab changed: the main object of interest was no longer the themes they were addressing, the projects or the specific technologies, but the ways in which these could be assembled and opened up to more inclusive forms of scrutiny and participation.

Since then, and as part of what is known as the Medialab community, down through the years I have taken part in the growth and evolution of this space of collective interrogation and self-exploration, whether as an assistant, a collaborator, a speaker or a mentor. For me, Medialab Prado is still a place of reference in which to learn about and experience critical approaches to the relationship between technology and collectivity, in other words, between empowerment and the ecosystem. However, in addition to understanding it as a meeting space out there somewhere, I can't help but feel that Medialab is a process of internalising certain questions and ways of doing

Perhaps the scale of the platform and the repository of exchange is no longer effective for dealing with the contemporary forms of power and their ubiquitous exploitation of the living and the animated. Is there a Medialab beyond that comfort zone?

things. Not surprisingly, one of the most characteristic experiences that this gives rise to is that of the richness of the design and collective elaboration of projects in which people who have never met each other are capable of producing functional prototypes from the aggregation of different knowledge, profiles and starting conditions. At those times, Medialab acts as a school for other ways of doing things in which ideas such as creation, development and authorship are separated from individuals and even from the human. In my case, this process of interiorisation has been crucial when it comes to understanding my practice and my work.

The question now is: what else can I ask from Medialab? One of the recurring analogies in the conversations we used to have in the first Medialab that I knew was that of extending free software processes to the world of culture, i.e., beyond the realm of programming. In a certain sense, operational concepts in Medialab Prado such as "commons", "prototypes" or "collaboration tools" can be understood from that transfer. It is interesting to highlight this at a time when the shadow of the power cast by large digital and financial corporations seems to weigh more heavily than ever before on the emancipatory possibilities of digital platforms and open source. The rise of machine learning, the recent acquisition by Microsoft of Github - the most important collaborative development platform - or the *uberisation* of the economy point in this direction. Significantly, these liquid logics of collaboration that are now perhaps being deactivated form, in my view, a comfort zone in Medialab Prado, an apparently neutral space of practice and exchange from which the institution has adapted to the limitations and has survived as a project. But perhaps the scale of the platform and the repository of exchange is no longer effective for dealing with the contemporary forms of power and their ubiquitous exploitation of the living and the animated. Is there a Medialab beyond that comfort zone?

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Collective intelligence for innovation

Domenico Di Siena

I arrived in Madrid in 2004. My intention was to stay for six months but I ended up staying for ten years. I have had the chance to live a special moment, characterised by an amazing ethical-creative effervescence regarding questions that are very important for me, related to the right to the city. No other reality or event describes the strength and intensity that characterise this city that I have been able to experience and enjoy better than the camps that sprang up during the 15M movement, first of all with the occupation of the Puerta del Sol in May 2011.

Madrid has a great number of spaces that articulate dynamics that I find very attractive. I have been able to get close to and collaborate with quite a few of them in many different ways. However, down through the years, there is one that has been particularly central and relevant for me and that is Medialab Prado. I understand that its very existence has contributed to my staying here for so many years, due to its extraordinary capacity for attracting, reinforcing and promoting open and collaborative culture, activating communities that stand out for their relational, social and political quality. A context you don't come across every day.

My personal growth has a common thread that connects directly to the evolution of Medialab Prado. I'm talking about the discovery of alternative forms of institutionality and my own capacity for agency. I recently realised that there's something in me that is still constantly searching for a chance to get out there and grow and, despite my relative calmness and even shyness, it ends up unfolding in its most powerful form, especially in particularly social and collaborative contexts. It turns out that this is exactly the essence of Medialab Prado.

In 2005 I visited its headquarters in Conde Duque for the first time, and I became interested in a project. I sent an email to the coordination team, explaining that the project was very much connected to my thesis. I received a reply from Marcos García, who, to my surprise, not only put me in touch with the authors of the project, but also suggested that I visited them so I could present my research project to them. I went back a few days later to do just that. By my standards as a student, all this was completely unimaginable and quite extraordinary. I have no idea if the presentation went well or not, the most important thing right then was the fact that I had had the chance to present my work. A few months later I was contacted by Marcos, who suggested that I might like to participate in what was the first edition of a cultural mediator's experiment.

Since then, I have always kept up a strong connection with the team. I think it is remarkable and valuable that I was able to participate and collaborate by taking on roles and a certain prominence that in most cases haven't required a predefined institutional framework. It's what we might call an *extutional* approach. I have been a cultural mediator, I have presented projects, I have given and attended lectures, I have developed projects and collaborated with others, I have had a project in residence[1]; I proposed and coordinated a seminar with the Rey Juan Carlos University, called Open Madrid.

It has been decisive to discover and experience the transforming power of the so-called hacker ethics, which is one of the keys to the culture that permeates Medialab Prado and that has to do with a laboratory proposal that is completely different to the ones we usually hear about, associated with companies and universities: a laboratory in which to activate practices with an open and collective approach, with an experimental nature and with a high public value.

I think that my relationship with Medialab has a lot to do with the attraction I feel for those communities and projects that you can be a part of without the need for that belonging to be defined by a position or a membership

Through Medialab Prado, I have discovered the mechanisms of co-learning that define a community of practice, something that I still apply to all my projects. One of the first projects was Think Commons[2]: a community of practice developed from the digital field that ended up connecting people with very different interests and backgrounds, but always related to open collaborative culture and the processes of collective intelligence and civic innovation.

If I think about the evolution of my imaginary with regard to cultural production and formats that generate value and opportunities, I recognise a personal journey that has had many stages including major leaps forward and a fair number of failures. I have had moments of growth followed by others in which I have felt more withdrawn. I would say that Medialab Prado has gone through something quite similar, inhabiting different places of the city, expanding and contracting in terms of space and activities, but always with the certainty of being able to fall back on the strength of its own community, always present and constructive.

Medialab Prado is a project, a programme and a space that is constantly evolving and transforming. Today we can describe it as a community laboratory, but this is the result of years of experimentation and transformation, which have required a very resilient attitude in order to maintain certain complex balances between the demand of its community and the different political and institutional realities that have mutated over the years.

I recognise in this process of resilience some of my own personal concerns and difficulties, related to the activation of spaces, communities and networks. The multiplication of stimuli, opportunities and possibilities, with tensions in different and sometimes opposing directions, generate noises that are not easy to ignore. Open and collaborative dynamics generate value and activate processes that take their own paths. Their protagonists, be they

1 Within the framework of the #ResidenciaHacker programme of residencies, which began in 2016. More information at https://www.medialab-prado.es/noticias/residenciahacker-nueva-linea-de-residencias-en-medialab-prado.

2 Think Commons is an online platform that promotes debate and generates knowledge about the commons, collective creation, collaboration, open culture and open government. More information at http://thinkcommons.org.

In recent years I have been trying to recreate Medialab from very different starting points and in very different contexts

people or entities, find that they have to adapt to paths that are constantly mutating. However, it is essential not to lose sight of why you started out in the first place and why you are still participating in this collective journey. It may not be easy to maintain that clarity of intention, but it is essential to avoid inertia and dispersion, and to continue to be able to provide value to the collective, without forgetting your own objectives.

In 2005 I got to know at first hand the activation of the first editions of the Interactivos? programme and other similar open calls, such as Inclusiva-net or Visualizar[3], which over the years have managed to transform Medialab from a public infrastructure focused on promoting digital culture to a place where digital culture has become an excuse, a context in which to promote experimentation, collaboration and the co-production of culture and knowledge that have an impact on the city.

My relationship with Medialab is still ongoing, even though I don't live in Madrid any more. In London, together with some friends, I was active in breathing life into an international network called CivicWise which connects people interested in collective intelligence and civic innovation[4]. This network is structured in line with the cultural imaginaries that are widely promoted by Medialab Prado and experienced at first hand in the collective practices of the 15M movement. The Madrid node came into being thanks to a meeting we organised at Medialab Prado, which is still the meeting point for the work meetings of this local node and a place of reference, with all its background of civic innovation, for the international CivicWise community.

I spent one and a half years in Paris, activating a new innovation space we have called Volumes[5] which is structured around four core ideas: territory, digital manufacturing, gastronomy and new ways of working. I dedicated another two years in Valencia, together with the local CivicWise circle and other people, to the activation of the Colector[6] space, which we see as the first prototype of what we call a civic factory; in other words, a space where experimentation and production are directly connected with the economic and civic processes of the city, advocating the generation of greater synergy between public administration bodies, citizens, private companies and universities.

All these projects resonate with the influence of what I learnt and experienced at Medialab Prado: a place, a context or an environment in which people can meet and activate collective projects and actions without the need to be part of a formal organisation or group, and without having to depend on dynamics based on hierarchies, specialisation or representativeness.

In conclusion, I think that my relationship with Medialab has a lot to do with the attraction I feel for those communities and projects that promote an environment of which you can be a part without the need for that belonging to be explicitly defined by a position or a membership granted by a higher or even a horizontal structure. I'm talking about processes and dynamics that allow us to recognise ourselves as part of a community without the need for an established agenda, but with recognisable and similar ethical and cultural frameworks.

I left Madrid in 2013 to move to Lancaster, then Manchester and London, ending up in Paris and finally in Valencia. Right now I'm writing this from Buenos Aires. Despite all this moving from place to place, I still feel I'm part of the Medialab Prado community. I still contribute to it and it still gives me a lot in the most diverse ways. The experimentation dynamics promoted by Medialab Prado still generate value for me, in terms of knowledge and relational capital, even from a distance.

This is my Medialab Prado, and I realise that in recent years I have been trying to recreate it from very different starting points and in very different contexts. I know that, in my case, many of my paths start and end with what Medialab Prado has generated and is still generating.

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3 For more information about the Interactivos? programme, see the BioCrea case study. With regard to the Visualizar programme, see the Soy de Temporada case study. Inclusiva-net is a platform dedicated to the research, documentation and dissemination of network culture theory It was active between 2006 and 2013.

4 More information at the web page of the project: https://civicwise.org/.

5 See http://volumesparis.org/.

6 See https://colectorvalencia.com.

Asymmetric ontology of a basement that was a chronotope

Jara Rocha

It is conceivable to imagine a future in which this problem of generating living structures in the world is something you would recognize as part of your responsibility.[1]

    Christopher Alexander, 1996

If intolerance were to end and the world were to survive such a phenomenon, we would need to build a new kind of social structure.

    Turner, 2006

What made me want to work at Medialab Prado was a visit to the bathroom during a talk by the "father" of free software in 2009[2]. The sink was piled high with cups and plates that still needed washing and something inside me made me think to myself: if the bathroom of a public institution has this level of domesticity, maybe it's a place where you could try to make forms of culture that have fewer parents and other rhythms. There was a tension in that place between the forces of the productive economies and those of the reproductive economies that kept me there for a while.

Sharing the most intense parts of my experience at Medialab Prado between 2009 and 2012 could well involve very different anchoring devices: methodological, thematic or chronological. But I prefer to use a tool that articulated in its own way a very significant moment in the laboratory: the pattern language that Christopher Alexander and his team developed and published in 1977[3]. This volume, one of the first editorial experiments of a hypertextual nature, has been a reference and indeed almost a cult in that shift "from counterculture to cyberculture", to quote Fred Turner, a shift that makes what has been called "the California ideology"[4] (a paradoxical combination of forces from the utopian counterculture of the return to the countryside and the anti-war movement of the 1960s and 1970s, on the one hand, and the neoliberalism of technological determinism that crystallised in Silicon Valley, on the other) resound in a delocalised way in the contemporary forms that it is occupying and vacating. A complete genealogy of cutting-edge practices and personalities in which such names and people as Marshall McLuhan, Buckminster Fuller or Stewart Brand are juxtaposed until one arrives at the amalgamation of totalitarian innovation of today's GAFAM & friends[5].

This type of digital utopia implied a universalising vision of technologies that rendered their socioeconomic consequences invisible and ignored a whole genealogy of feminist, queer and anti-colonial works, voices and sensibilities. However, in our self-constituted group of research in the gender-technology vector, which came into being in the pre-15M context, what we were learning was precisely not to dismiss outright the canon's own devices in spite of the regimes of exclusion, damage and incapacitation that they give rise to. Eco-cyberfeminisms (of which we considered ourselves heirs) had taught us that among the technopolitical frameworks one can often come across cracks or oblique operations designed to trigger unsuspected uses and even to summon inappropriate agents for the structures of learning, experimentation, criticism and creation that we urgently need to endow ourselves with. In other words: to closely study devices whose genealogies do not and will not belong to us is a powerful occupation of the technical matter that constitutes as a practice a shift from *probable* cultural forms to the transfeminist opening of *possible* ones by a community.

The entrance to the basement that was Medialab Prado in those days was composed of a staircase, a curve and a huge, heavy door. In other words: a change of level, a change of course and the strength to be able to push. This composition brings together the roughness that is essential for one of the chronotopes most studied by the philosopher of language Mikhail Bakhtin: *the threshold*

From a moment of open inventiveness in the face of cultural mediation, it was considered that this had to do with working with the links between agents (human or not), either pointing them out, generating them or turning them into a problem in order to consider the disconnections yet to come (and the power that such disconnections would bring). In a way, it could be said that mediation implies a work of *response-ability* in terms of an *ability-to-respond* in the always asymmetric ontology - the agencies are distributed, and each part has its specific competences and characteristics that are different from the rest - of a specific world layer.

A Language of Patterns, the book by Christopher Alexander and his team, was really useful in those days of what we called the commons aesthetics group[6] that then relocated to LabtoLab, the international gathering where groups could formulate questions, share sensitivities and specify their needs or rejections[7]. In that way, it worked as a mediation technique with which to address existing or sought-after relationships in the meeting areas, those so-called "citizen laboratories" (although such approaches obviously involve questioning the paradigms of "laboratory" and "citizenship" as valid categories for such compositions).

Very briefly, the internal mechanism of the book by Alexander *et al.* can be explained as a repertoire of elements that can be used to build spaces of conviviality[8]. When *mutual* affections (that is, when two or more agents affect and are affected by each other) become procedural and even infrastructural, we should note a certain pattern in this composition of the world. And that's where the function of this technique is anchored. If, as the Com-

1 The original translations of all these extracts are by the author and are therefore of an amateur nature.

2 I am talking about the lecture that Richard Stallman gave at Medialab on 4 March 2009. See https://www.medialab-prado.es/actividades/conferencia-de-richard-stallman.

3 Christopher Alexander, Sara Ishikawa and Murray Silverstein, *A Pattern Language: Towns, Buildings, Construction*, Oxford University Press, 1977. The website http://www.patternlanguage.com/ contains a wealth of files and texts on pattern language.

4 Richard Barbrook and Andy Cameron, *The Californian Ideology*, Mute, 1995. See https://www.metamute.org/editorial/articles/californian-ideology

5 Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network and the Rise of Digital Utopianism*, University of Chicago Press, 2006. This book shows the connection between the counter-cultural movements that emerged in California in the 1960s and 1970s and early digital and cybernetic cultural practices linked to libertarian utopianism and personal emancipation (Marshall McLuhan, Buckminster Fuller and Stewart Brand are considered to be 'visionary' authors in the gestation of these currents of thought). But the idea of the Internet

as a free environment that still dominates the collective imagination is also present in the neoliberal policies of the global technology market, governed by the so-called GAFAM (an acronym that alludes to the oligopoly formed by Google, Amazon, Facebook, Apple and Microsoft).

6 See AVLAB Meeting: Pattern Languages as Generation Systems in the Commons held in Medialab on 22 May 2010: https://www.medialab-prado.es/actividades/encuentro-avlab-lenguajes-de-patrones-como-sistemas-de-generatividad-en-procomun.

7 The aim of the LabtoLab project, which began in 2009, is to create a network of medialabs in which to share experiences and methodologies. The organisations behind the project were Kitchen (Budapest), Constant (Brussels)), Crealab (Nantes), Area10 (London) and Medialab Prado (Madrid). See: https://www.medialab-prado.es/en/activities/labtolab-madrid-international-medialabs-meeting.

8 Ivan Illich, *Tools for Conviviality*, Harper & Row 1974.

9 Comité Invisible, *A Nuestros Amigos (To Our Friends)*, Pepitas de Calabaza & Surplus Ediciones, Logroño, 2015.

10 Christopher Alexander, "The Origins of Pattern Theory, the Future of the Theory, and the Generation of a Living World", inaugural address of the OOPSLA (Object-Oriented Programs, Systems, Languages and Applications) Convention, organised by the

What happens in Medialab is neither teaching nor training, but rather the streamlined facilitation of specific conditions for learning that can take place, always in a collective way

ité Invisible (Invisible Committee) suggests, "power lies in infrastructures"[9], it seems appropriate to identify which patterns persist in order to measure the degrees of transferability, torsion, habitability (*more-living structures*) or their rescaling[10].

The sophisticated work of infrastructural dismantling based on extending politicised and creative attention to almost archetypical items that affect the "living substance" (sic) is what I have decided to *remedy* here (i.e., a change of environment and/or surroundings) in order to share those characteristics that turned Medialab Prado into a space-time of transformation for agents in evident asymmetry, but also in a certain mutuality. So, I am now going to put a few items of the language of patterns to a combinatorial analysis test to allow the specific silhouette of a memory to emerge, a memory that is packed with affections, experiments and struggles. Or, to put it another way, I am going to set out a number of patterns from Alexander *et al.* to recall the collective complexity of a space-time materialisation that was surprisingly just as situated and intimate as it was partially replicable and openly collective.

Entitled "El Flujo entre Estancias" ("The Flow through Rooms"), pattern number 131 seems to point more to the transit from one interior to another interior: "Let's give this indoor circulation from room to room a feeling of great generosity"[11].

Architecturally speaking, the entrance to the basement that was Medialab Prado in those days was composed of a staircase, a curve and a huge, heavy door. In other words: a change of level, a change of course and the strength to be able to push. This composition brings together the roughness that is essential for one of the chronotopes most studied by the philosopher of language Mikhail Bakhtin[12] in narratology: *the threshold*. For Bakhtin, chronotopes are space-times that place the character of a novel in highly significant coordinates; specifically, the chronotope of the threshold produces a reflexive pause when passing from one area of the scene described to another. Moving from fiction to the experience of entering a cultural space, the fact that the flow between rooms was a somatic operation in *conditions of subterraneity* contributed, for a moment, to feeling the change of paradigm that this threshold implied[13]: from the artery of the Prado-Recoletos museums to an area of experimentation that demands the assumption of an active, implicated and curious position... and a detachment from the disciplinary frameworks and hierarchies of expertise that could well remain on that curve, before entering. Chronotopes are important items in Bakhtin's dialogic imagination "social poetics", and that of the threshold creates a direct resonance with the careful attention paid to the flow from one room to another in the language of patterns.

However, in Medialab Prado there is a threshold of a different dimension that also offered fertile controversies and moments of questioning from various inside-outsides: the digital facade. For example, the inside-outside of the system of stigmatisation and psychiatric pathologisation due to sexual dissidence entered into crisis with the contents proposed by Toxic Lesbian[14],

and the inside-outside of a certain ideology of the institutional-public with projects such as Un Barrio Feliz (A Happy Neighbourhood), which used an enormous screen to denounce the contradictions of the double link between surveillance and overexposure on the part of Madrid City Council[15].

Pattern 18 is called "Red de Aprendizaje" (Network of Learning), and number 156, "Trabajo Asentado" (Settled Work). I propose combining both in order to share a key element of our commitment at Medialab Prado at that time. On the one hand, this publication makes it clear that what happens in Medialab is neither teaching nor training, but rather the streamlined facilitation of specific conditions for learning that can take place, always in a collective way. Obviously, roles are assigned and assumed for such facilitation, but they are never orthodox or rigid in the academic sense.

> The alternative to social control through schools is voluntary participation in society through networks that provide access to all manner of learning resources. (...) Such new institutions should be channels to which the learner would have access without credentials or pedigree, public spaces in which peers and elders outside his immediate horizon now become available[16].

One process that took a particularly luminous turn in this direction was that of the masterDIWO[17] project that was set up by a group of mediators who were willing to share their tools, time and self-learning materials with each other and with other people. As an alternative to spaces of academic training required by both content and form, we shared an intense learning network power for about two years. Another of the highlights, due to their continuity and the robust community that emerged from them, are the OpenLab Fridays: every Friday, open doors to a session of fiddling about with things and a good chat. The aim was always to share ways of doing and understanding[18].

> What do we mean by 'settled work'? It is work that combines all the threads of a person's life into a single activity: the activity becomes a complete and unconditional extension of the person in charge of it. It is a type of work that cannot be achieved from one day to another, but only through gradual development[19].

On the other hand, the consolidation of these facilitation wisdoms was a demand that we, the practitioners of cultural mediation, needed to make: it seemed highly political, epistemic and ethical to us to ask whether it would not be pertinent that mediation should not (only) be an activity developed in the "early" stages of a professional career, performed by people in training and in a precarious situation. Rather, as pattern 156 did, we wanted to argue that *anyone*[20] can mediate: the recognition of the work in the medium-long term of those who unfold that sensitivity and assimilate that wisdom would make it possible to make the practice more sophisticated in order to be able to compare methods, exchange experiences and transmit what is learned to others in sustainable working conditions. At least it was worth the joy of trying[21].

Pattern number 58 is about the 'Carnival':

> There is, in short, a need for socially sanctioned activities that are the equivalent of sleep, but in wakefulness. (...) Actors who mix with

Association for Computing Machinery (ACM) in San José, California, in October 1996. The video of the conference is available at https://www.youtube.com/watch?v=98LdFA-_zfA, and the transcript at http://www.patternlanguage.com/archive/ieee.html.

11 Christopher Alexander, Sara Ishikawa and Murray Silverstein, *A Pattern Language: Towns, Buildings, Construction, op. cit.*, page 131.

12 Mikhail Bakhtin, *Forms of Time and of the Chronotope in the Novel: Essays on Historical Poetics*, Ed. Michael Holquist. Trans. Caryl Emerson and Michael Holquist. 1981. Austin, University of Texas Press, 1990d.

13 Jara Rocha, "En Torno al Umbral" (On the Threshold), in *Mediación Medialab Prado* [blog], 13 May 2009. Retrieved from http://mediacion.medialab-prado.es/2009/05/13/en-torno-al-umbral/.

14 "Tales they Never Tell: Zero Stigma," by Toxic Lesbian, an intervention of the digital facade of Medialab Prado, 2010. More information at https://www.toxiclesbian.org/proyectos-de-arte-publico-y-ciberfeminismo/cuentos-que-nunca-cuentan/.

15 Enrique Villalba, "Campaña contra el 'Gran Hermano' de Lavapiés" (Campaign against the "Big Brother" of Lavapies) in Madridiario.es, 11 August 2009. See https://www.madridiario.es/2009/Agosto/madrid/madrid/167053/campana-contra-el-gran-hermano-de-lavapies.html.

16 Christopher Alexander, Sara Ishikawa and Murray Silverstein, *op.cit.*, page 101.

17 See https://masterdiwo.wordpress.com/proyecto/.

18 For more information about OpenLab Fridays, see Carmen Haro's text "The community laboratory as a learning methodology."

19 Christopher Alexander, Sara Ishikawa and Murray Silverstein, *op.cit.*, page 734.

20 Luis Moreno Caballud, *Culturas de Cualquiera: Estudios sobre la Democratización Cultural en la Crisis del Neoliberalismo Español (The Cultures of Anyone: Studies on Cultural Democratisation in the Crisis of Spanish Neoliberalism)*, Acuarela and Antonio Machado, Madrid, 2017.

21 Some of these reflections are included in the "A mediation manual for citizen laboratories".

22 Christopher Alexander, Sara Ishikawa and Murray Silverstein, *op.cit.*, page 299.

The "Concepts install party: P2P degenerate" consisted of using the *geek* meeting format par excellence – an *install party* – as a way to translate and discuss feminist and queer sensibilities that we considered latent, but not present

the crowd and unwittingly involve you in processes whose end cannot be foreseen[22].

On numerous occasions, the learning and experiments we were in charge of in Medialab Prado had to do with operations of displacement from some methods, knowledge or subjectivities that were already known and streamlined to others that were more alien to us and undoubtedly yet to be learnt. A clear example is the "Install party de conceptos: P2P degenerado" (Concepts install party: P2P degenerate)[23], an experience triggered by the gender and technology group in collaboration with Lucía Egaña Rojas and Miriam Solá that consisted of using the geek meeting format par excellence – an install party – as a way to translate and discuss feminist and queer sensibilities that we considered latent, but not present, in the everyday life of that basement. The installation happened not by direct infusion but by discussion. In this way, the device did not require a consensus for the installation of a new concept, rather just by spending time together talking about it we considered that something had already been installed as a question and possibility in the multiple experiences of all of us who met there.

I could continue to expand on more patterns and memories, but this brief overview is an invitation to continue to pay careful attention[24] to the socio-technical protocols that take active part in the ontological constitution of chronotopes for transformation. In 2019, totalitarian innovation continues to gain presence in our everyday lives and perhaps the only way for certain urgent and no doubt partial repairs to happen is if we continue to imagine unlikely combinations of structures that are suitable for life.

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23 *Install parties* are gatherings where lots of people meet up to install free operating systems together. The aim is to share doubts about and learnings obtained from the process, but these events also serve to celebrate community based on the values of free and open-source software. The "Concepts install party: P2P degenerate" took place in Medialab on 01 December 2011. More information at https://www.medialab-prado.es/actividades/install-party-de-conceptos-p2p-degenerado.

24 I display this attention on a daily basis in the form of a conversation with Femke Snelting. For another approach to the forms that the processes of collaboration are taking, and in order to explore in greater depth the issue of the socio-technologies that we use, and their weaknesses or strengths, please see this text that she has recently published: Femke Snelting, *Other Geometries*, Transmediale, 2019, https://transmediale.de/content/other-geometries.

Opening the seams of technology

Elisabeth Lorenzi

When I was a little girl, I used to rummage through my mum's sewing basket (which she rarely used). I was always fascinated by the different ways a needle could bind, shape and transform volumes and recover materials. But when I chose a degree, I chose one in the field of social sciences (another of my passions). I loved anthropology, and I developed my professional life around it, leaving my relationship with textiles to my spare time and my experiments. I learnt how to use a sewing machine, to recycle materials, to make accessories and to sell them. Anthropology gave me great satisfaction, but I also needed a space in which social vision and plastic dexterity could go hand in hand. So, I decided I was going to go back to study and get a degree in fashion and textile design, albeit now as a mature student.

Are textiles technology? That's not the right question. The right question is, why don't we consider textiles as technology?

And where could an anthropologist/fashion designer go? The answer is Medialab Prado, where thinking and doing go together like birds of a feather. I started giving one-off workshops, until I signed up for an open call to fill the position for mediation-research work[1]. The project I presented, Textil en Abierto (Open Textiles), was chosen and developed between 2015 and 2017[2]. Textil en Abierto was an *atelier* in a digital node, a cosy corner in an open-plan hall, a workstation in the middle of an exhibition, and a place of reference for a learning community. Around the tables, which were always full, people would be testing materials, drawing, sewing, weaving, chatting and dying fabrics. Little by little, the space filled up with samples, clothes and on-going projects... A textile grapevine softly began to occupy the concrete walls of the Serrería Belga (The Belgian Sawmill). The project approached textile design as a field that can and must be open, with collaborative and horizontal practices. And this is by no means a new idea. It is rooted in the imaginary of female textile works and it connects with more contemporary lines of thought, their biggest source of inspiration being the open software movement[3]. Connecting and giving visibility to those two worlds was the first step towards trying to influence the fields of textile production and design.

1 For more information on mediation-research at Medialab Prado, see "A mediation manual for citizen laboratories".

2 For more information on Textil en Abierto, see https://www.medialab-prado.es/videos/textil-en-abierto.

3 For more information on the open software movement, see the text on AVFLoss.

I started giving one-off workshops, until I signed up for an open call to fill the position for mediation-research work with the project Textil en Abierto (Open Textiles) an *atelier* in a digital node, a cosy corner in an open-plan hall, a workstation in the middle of an exhibition, and a place of reference for a learning community

During its first year of activity, Textil en Abierto enjoyed a period of expansion, making contact with textile initiatives, generating contexts for encounters and exchanges and giving shape to a textile laboratory in Medialab Prado. We even had a fashion show. For the second year, we wanted to focus on the textile laboratory as a space for experimentation and prototyping, exploring different means of open documentation adapted to the needs of textiles[4].

Why did all this happen at Medialab Prado? Because it is a space in which technology is given the spotlight. However, when that series of activities at Medialab ended, textiles disappeared from the place. And, even though nobody understands why, for me it was a failure. I thought I had proven that textiles are an intrinsically human and cross-cutting technology, but other than Textil en Abierto, they are not integrated as a way to produce formats and contents in this space. At FabLab[5] we have saws and screwdrivers, perfectly visible and organised so any prototype can be built, but that doesn't happen with tools and materials for textiles, because they're considered to be anecdotical.

For me, it was a revelation and a turning point in my approach to technology. Once I got over my irritation, I had lots of questions. And Medialab Prado is a good place to ask yourself questions. Are textiles a technology? That's not the right question. The right question is, why don't we consider textiles as technology? Why is operating a sewing machine considered an unskilled task? Why is fashion perceived as something trivial? Why are robotics done with hard materials? Why do so many expressions of feminine empowerment come from the textile industry? The way we dress is not only the result of an evolution in taste and styles, it is the result of untold technological innovations. For me, textile technology extends from the invention of the needle more than forty thousand years ago to the beating of wool, buttons, the first steam-powered looms, the sewing machine, pattern making methods, the invention of polyester... and microprocessors designed for textile electronics.

According to Wikipedia, technology refers to the set of instruments, technical resources or procedures employed in a specific field or sector. Nowadays there's an interesting synecdoche with this term, which has led us to consider the whole for the part: in our imaginary we think of technology as a domain filled with codes, electric impulses, circuits, pistons and chromed reflections. Anything electronic and digital is a synonym for technology, and robotics are its greatest exponent.

Inspired by the feminist work of highlighting the absence of women in specific fields of knowledge that are considered bastions of progress, such as science and technology, my objective is to understand why the technological fields in which women are indeed present and have been historically predominant, coincide with technologies that are considered minor, or not even

4 All this was documented and can be consulted at https://opentextil.hotglue.me/.

5 FabLab, in other words, the digital manufacturing laboratory at Medialab Prado, is a space dedicated to experimentation with digital manufacturing processes and tools. It has laser cutting machines, a vinyl cutter, 3D printers and small and large format milling machines. More information at https://www.medialab-prado.es/programas/fablab-laboratorio-de-fabricacion-digital.

considered as such. They are de-technologised fields. Why do electronics and digital technology have the standards and formats they have today? Because technologies are imbued with meaning.

We need to look at technology standards and how they have historically been built around gender. My line of research involves working in electronics using unusual materials and de-technologised domains in order to highlight the fact that technologies are imbued with meaning and hierarchy. My first step was to work from an unusual field, the technology of wool, placing it at the same level as electronic technology. At Medialab Prado, I started to give shape to this line of research by exploring traditional techniques for working with wool in all their phases: carding, spinning, felting and weaving to combine materials, produce threads and components, generate energy and... build textile circuits.

These are activities that really stand out, because there are hardly any spaces nowadays where you can learn the techniques of felting and spinning, and at the same time, basic electronics

That's how Power Textil: de Cómo la Rueca nos Lleva a los *Wearables* (Power Textil: From how the Spinning Wheel Leads to Wearables)[6] came about, a project of technological mediation and prototyping of e-textiles by applying traditional textile fibre working techniques to create electronic components[7]. Power Textil is also an exercise in methodological surprise. Not because of the fact that you can build electronic devices with wool, but because textiles, and therefore wool, are a strange "technological" substratum on which to think about electronics. To that end, we investigate the potentials of the techniques and we document and propose practical prototyping workshops. These are activities that really stand out, because there are hardly any spaces nowadays where you can learn the techniques of felting and spinning, and at the same time, basic electronics. The project has visited art and technology centres, wool fairs, events on textile sustainability and spaces dedicated to women's empowerment.

The thing I'm most proud of in this project is that I explored possibilities for producing energy, using the technique of felting to build batteries in which wool produces a chemical reaction that generates the volts needed to turn on a LED. This brought me to research other types of more versatile materials, and I came across bioplastics, which are polymers synthesised from renewable organic sources, such as agricultural waste, cellulose, potato or corn starch, seaweed, animals (such as collagen-gelatine), fungi and bacteria. The most interesting thing about biopolymers is that they can be obtained everywhere in a sustainable way and in accordance with their sociocultural context. Experimenting with these materials has been greatly boosted by the DIY movement, because they can be synthesised from simple materials and tools, like those found in a kitchen. With this new route, I'm once again thinking about using unusual materials, from such a de-technologised and feminised domain as the kitchen... because those materials can be cooked. And it is no coincidence that, as was the case with e-textiles, the field of bioplastics is a field of research led by women. Bioplastics have enormous potential to generate sustainable e-textiles and wearables. My

6 *Wearables*, also known as wearable technology, corporal technology, technological clothing, smart clothing, or textile electronics, are smart electronic devices incorporated into clothing or worn on the body as implants or accessories. Source: Wikipedia. For more information about Power Textil you can watch the video at https://www.medialab-prado.es/videos/tecnologia-es-nombre-de-mujer-un-ano-en-un-dia-2019.

7 For more information about the project, check out https://powertextil.hotglue.me/.

first dabble at these materials was with solar cells and batteries made from gelatine... and they work.

At that time in Medialab Prado, BioCrea was starting to take shape; it is a space for experimentation in areas related to biotechnology from the perspective of art and design[8]. There I began to study the electronic properties of biomaterials with the idea of building circuits, components and energy sources, and creating biodegradable electronic devices. I was working on this when the sixth LABIC open call for projects was published[9]. That year it received financial support from the Government of Costa Rica and the Earth University to promote projects that generate social and environmental benefits. I presented my biomaterials project under the slogan "Biodegradable electronics", and it was chosen for development. We worked with materials that we picked up in the jungle that surrounded the campus or we bought at the market, or things we had all brought from our own countries. We cooked them and we fashioned standardised samples in order to study their connectivity and resistivity, we classified them from more to less conductive or insulating, and we compared them with the properties of the materials used in electronics, such as metals, glass or Bakelite. We also studied their plasticity, viscosity and adherence so we could adapt the potential of 3D printing. And with our most outstanding samples we built a musical and performative instrument with Arduino technology, the BioMIDI, to which we assigned musical notes depending on the degree of conductivity of the materials[10].

We believe that this experience can be the first step towards a change of paradigm in which the accessibility and familiarity of the materials can allow us to imagine electronics with other formats and technology from other parameters. For me, what's important about all these projects is knowing where they come from and how the technology and the materials that give them shape are configured. My aspiration is to be able to transmit a narrative based on these materials and the technology that activates them, a narrative that captures this relationship between gender, sustainability and simplicity. Because simplicity is the most sublime form of technology.

Elisabeth Lorenzi, who has a polyhedral and transdisciplinary profile, is a social anthropologist and technical designer of clothing. She focuses on research into textile materials as a reflective practice on technology, society and the environment.

[8] See the case study about BioCrea.

[9] To date there have been six editions of the LABIC citizen innovation events, organised by the Ibero-American General Secretariat, following the Medialab Prado methodology: Mexico in 2014, Brazil in 2015, Colombia in 2016 and 2018, Argentina in 2018 and Costa Rica in 2019. More information at https://www.ciudadania20.org/

[10] This is all documented at https://electronicabio.org/ and registered under a Creative Commons license.

A mediation manual for citizen laboratories

Cultural mediation and citizen laboratories

The purpose of this manual is to share what Medialab Prado has learned about mediation. It is not a list of signed and sealed recipes but rather a set of *ways of doing things*, a repertoire of ideas, advice and reflections that are made available so they can be adapted, modified and translated to the needs of each context. Medialab has been running citizen laboratories for more than ten years, but although this manual takes its inspiration from the experience gained in that context, its content matter can be applied to any organisation seeking to explore new ways of relating to its environment and to provide places for experimentation, collaboration and collective creation.

The boom in mediation in recent years comes in response to the need for institutions to connect with their environments and the people who live in them, and to collaborate more fully with other fields of knowledge and with different forms of experience and expertise.

In the case of citizen laboratories, mediation is crucial. If we define citizen laboratories as a type of public institution that offers places where projects can be created collaboratively, mediation will be all the things that create the conditions that make this possible. By and large, citizens' laboratories are defined as *open* spaces where people are invited to participate in the creation of projects and where learning is documented and shared. But that does not mean that what happens inside them is automatically *accessible* in the sense that anyone may feel called upon and sufficiently comfortable to participate in them. The role of mediation is to ensure that whatever is presented as open and *accessible* really is open and accessible. For this reason, for a person to go from being a visitor to becoming actively involved in a collective project, a whole series of tasks and attention have to be deployed so that no one feels out of place and so that anyone and everyone, regardless of their experience and circumstances, can find their space. Diversity is one of the greatest assets of citizen laboratories, as they attract people with different profiles, knowledge, interests and sensitivities. But, as we shall see, it is also one of the biggest challenges facing mediation teams.

Mediation in citizen laboratories faces a twofold challenge, therefore. On the one hand, it is all about achieving a result: carrying out a collective project. And, on the other hand, it is about learning to work together, providing the necessary means to collaborate in pursuit of a shared goal using whatever it is that each individual brings to the process. This means focusing on both the projects and the relationships between people and on how, through them, a common space is built.

If we had to sum this up in a single idea, we could say that mediation consists of being a good host, in the most basic sense of properly taking care of and looking after the people and groups that inhabit a space, and being hospitable to anyone turning up for the first time.

How we reached this point: from room guides to mediation-research

What we call mediation in citizen laboratories is the result of a gradual expansion of the functions carried out by mediators, which, in the case of Medialab Prado, is something that has been evolving since 2003. From room guides who inform and assist visitors at an exhibition to educational programmes and activities, mediation takes place in different ways, and any one way does not exclude the previous one, but rather generally incorporates and extends it. We might consider this gradual extension of functions to be similar to the layers of an onion to which more and more possibilities are added.

The first layer corresponds to what room guides do during an exhibition: they provide keys to reading, experiencing or enjoying the works (these keys are often predefined, whether by the artist, the curator, the historian or the art critic) and sometimes they also take care of the logistics such as turning on the lights or the electronic devices (video, sound, etc.). The guide should approach the visitors, although sometimes they wait for them to come up to them with a question. Although at first they start by talking about the works on display, conversations usually head off in different directions. The main functions of mediation in citizen laboratories can be found in the tasks carried out by a room guide. These are primarily to assist, inform and converse.

The second layer in this progressive widening of functions is when the works on display are accompanied by a programme of activities[1]. The main characteristic of this type of mediation is that it starts off with a main project (which may be an exhibition, a performance, a projection, etc.) around which a programme of complementary activities is organised to provide context and keys to interpret it, and to bring it closer to different audiences. Such mediation usually has an important educational dimension, aimed at both adult and child audiences or students, and it often generates materials that teachers can use in the classroom. For example, a play based on a historical event in the city may be accompanied by a talk by its creators, a lecture on that period, or a tour of the streets in which the action takes place. This all helps to stimulate conversations about the main work. This type of mediation involves a lot of groundwork: researching the project and making contact with groups and communities that may be interested and can bring their own perspectives, generate conversations and broaden views of the work. This is where another key element of mediation in citizen laboratories comes into play, namely the activation of exchanges around a common theme.

The third layer would be when these research and mediation activities take centre stage and become core to the proposal. They are no longer considered complementary or ancillary, rather they are conceived and designed at the same time as the main project, they are structural and consubstantial to it. They may be workshops, conferences, activities in public spaces, meetings, workshops…, any format that allows for learning situations and interaction among the participants. The characteristic feature of this type of mediation is that the focus shifts from a main work to the conversations that are sparked off in the context it has created.

The fourth layer, which corresponds to mediation in citizen laboratories, goes one step further. In this case, it is the users who propose the projects. In other words, it is not a matter of accompanying a proposal made by an institution, but rather of *doing something together*: drawing up a proposal, designing a prototype, creating a working group or simply getting together to pursue common interests in order to learn and experiment.

Here, the role of mediation is to nurture that common space to make sure it is a hospitable one. This means assuming, from the beginning, all the basic functions of a room guide: providing information, attending to people' needs and giving them reading keys so they can understand what is going on in that space and how they can participate in it. But it also means initiating activities, activating connections with other groups or looking for intersections with different lines of work that are already underway in the centre, all of which revolve around these *living* environments of interaction and experimentation that the participants themselves have created. In the same way that the visitor goes from being an individual listener or spectator to being someone who talks about and finally co-produces a process of collective experimentation, the space itself evolves from being an exhibition hall for contemplation to a place for meeting and conversation and, ultimately, an open workshop or laboratory.


CULTURAL MEDIATION

CITIZEN'S LABORATORY

[1] This is also referred to as an educational programme or parallel activities that serve to activate the projects that are being presented, to encourage the creation of new audiences and the harnessing of cultural projects by other institutions, such as schools or social services.
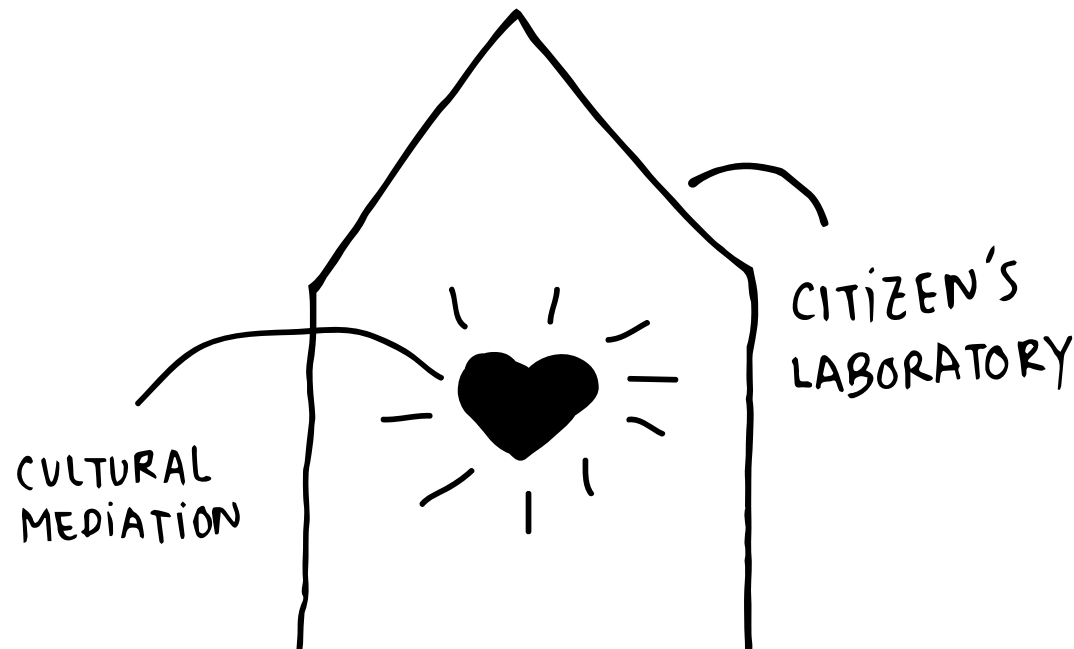
Toolbox: functions and skills in mediation

The main functions of mediation in citizen laboratories are listed below, together with the skills required. As we said at the beginning, this is a collection of ideas and advice inspired by the experience of Medialab Prado, but adaptable to other contexts. Each organisation will need to develop its own toolbox. Depending on each individual case, certain skills will be more relevant than others or new functions will emerge. And, of course, not all institutions allow this type of mediation to be implemented: a museum containing large art collections, for example, will find it difficult to transform itself completely into a citizen laboratory, but it may be able to incorporate certain elements or set up specific lines of collaborative work. The scale of the centre and the profile of the people is also something that needs to be taken into account. Generally speaking, citizen laboratories require a medium-sized institution and a stable community of users that can sustain shared work cycles.

We draw a distinction between functions and skills, because we understand that the former refer to the tasks that mediation teams carry out and the latter to the capacities they must have or must develop in order to carry them out adequately, although in practice both categories overlap. Mediation is individual work and team work at one and the same time: each mediator carries it out on a personal level, but with others in mind. That is why a good mediation team will be a team that has a wide range of backgrounds in relation to the different fields of knowledge (art, design, humanities, engineering, science, etc.), but ideally they should perform the following functions and have the skills described below.
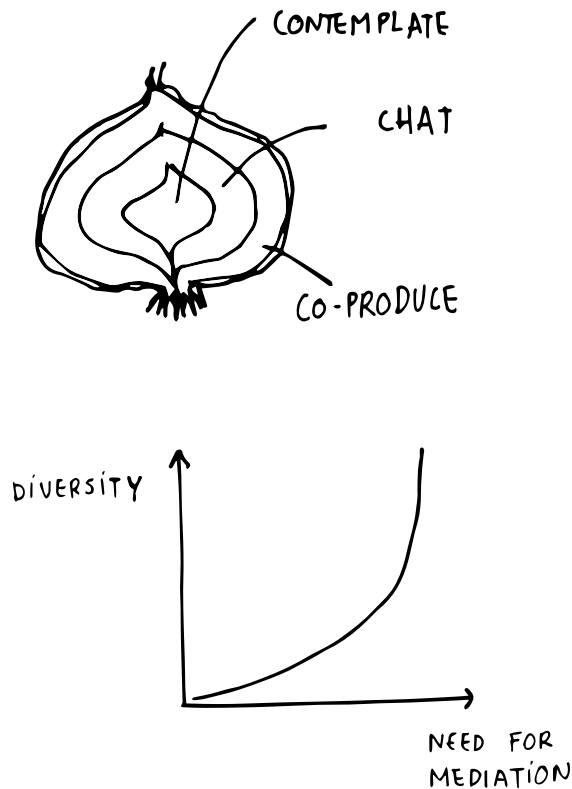
1. Roles of mediation

Welcome

This function involves providing the first point of contact. When someone enters an unfamiliar space, they should feel welcome and be able to find someone they can talk to. This is when the mediator's ability to communicate and listen is crucial. He or she must identify that person's expectations and interests and take their needs into account, whether they express an interest in a specific project or prefer to discover the place at their own pace. And thereafter, they are there to guide them in their first experience, helping them to imagine what their relationship with the centre might be, how they can take part in it and make it their own.

The person in charge of the mediation must have a good understanding of how the centre works: the activities and projects that are underway, the working team and relationships with other organisations, but also the interests of other users that may have a connection with that visitor. In addition, while they are welcoming the visitor, they should explain how the institution works, and here again, they should use language that is appropriate to the visitor's profile. In other words, not only do they have to pass on certain information, but they also have to *translate* it into different registers. Welcoming someone is an apparently simple function, but it is one that requires tact, because it involves adapting to the needs of each person.
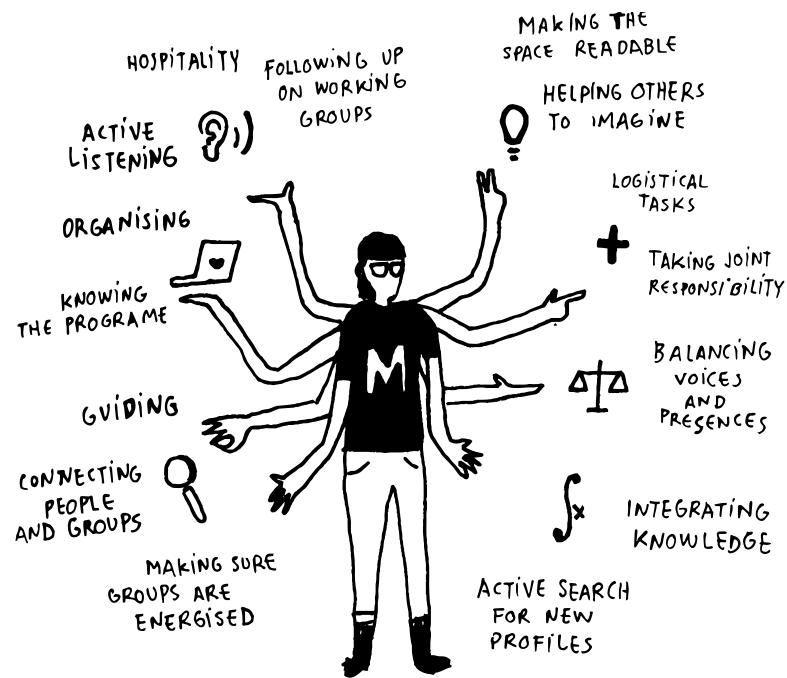
Finally, welcoming also includes looking after the space so that it is accessible and inclusive, from the information panels to how the furniture is arranged, taking into account all the elements that mediate between the visitor and the centre during that initial contact.

Accompany

If the welcoming function refers to the initial contact, then the accompanying function is concerned with what happens afterwards with users who are regular visitors to the centre. On the one hand, accompaniment is an extension of the welcome, because it seeks to create a cordial and hospitable atmosphere in which everyone feels at ease and knows how to find whatever they need. In this sense, accompaniment includes all the functions of welcome but carried forward over time.
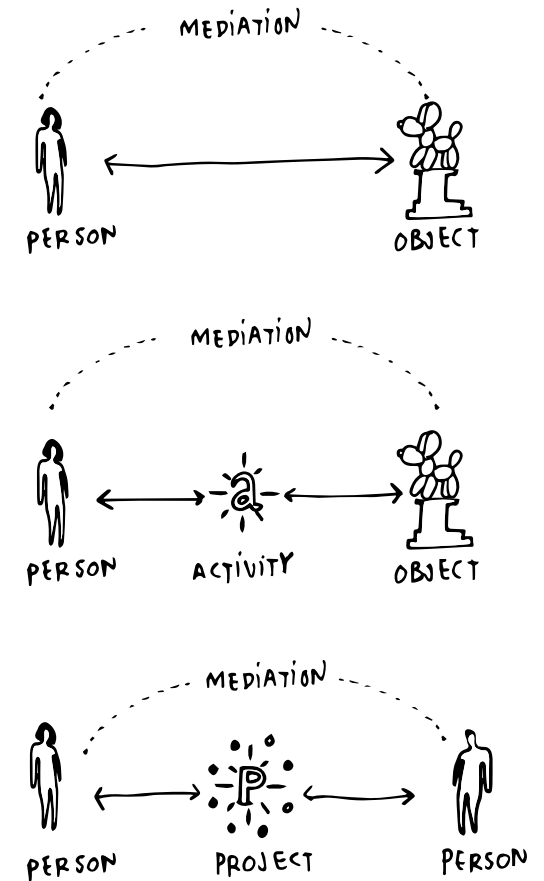
HOSPITALITY FOLLOWING UP ON WORKING GROUPS

MAKING THE SPACE READABLE

ACTIVE LISTENING

HELPING OTHERS TO IMAGINE

ORGANISING

LOGISTICAL TASKS

KNOWING THE PROGRAMME

TAKING JOINT RESPONSIBILITY

GUIDING

BALANCING VOICES AND PRESENCES

CONNECTING PEOPLE AND GROUPS

MAKING SURE GROUPS ARE ENERGISED

INTEGRATING KNOWLEDGE

ACTIVE SEARCH FOR NEW PROFILES

But in addition, as far as the participants in stable projects or working groups are concerned, accompaniment implies a low-intensity follow-up, adapted to each case. This includes, to begin with, logistical support to facilitate access to materials and equipment, providing technical information and responding to practical needs. Secondly, ensuring that the groups are sufficiently dynamic, i.e., that they function properly and have good working methods. This does not mean that the mediator is responsible for motivating the groups, but rather for detecting any needs that may arise at that level and helping them to respond to them. Thirdly, low-intensity monitoring implies being aware of the continuity of the projects, their evolution and their life cycles (moments of greater or lesser activity, changes in orientation, changes in the team members, etc.), keeping in mind that they are all different and will go through different phases over time.

Finally, mediation seeks to encourage and supervise the documentation and communication of the processes: each group or project is responsible for documenting its own work (in an online space or in social networks), for describing the connections it generates (links with similar groups, participation in activities) and for keeping an archive of its evolution. Mediators endeavour to accompany these tasks, providing tools and ensuring that documentation and communication are kept properly up to date.

Part of this accompaniment consists of conveying to the groups a series of usage rules that give rise to a co-responsibility with respect to the overall Medialab project and the common space: the users must help to take care of the space and the relationships that develop in it because the fact is that everyone, in their own way, is also a mediator for the project as a whole. Each group is an experiment in self-organisation, and accompaniment is there to help make that happen, facilitating their autonomy as much as possible.

Connect

The task of connecting refers to fostering relationships between what is already going on in the centre among people, projects, groups and ideas. Although many connections occur spontaneously, without any need for intervention, this is not always the case. Sometimes, they need more active encouragement. Imagining these possibilities and making them a reality is part of the work of mediation.

In Medialab, as is the case in many cultural centres, there is an abundance of activities on a wide range of themes that, moreover, often occur simultaneously. A complex scenario that's by no means easy to navigate. You have to have an in-depth knowledge of everything that is going on, from the programme to the organisational chart, so you can know precisely who is doing what, not to mention the socio-cultural context in which the institution operates at the local, national and international level. Furthermore, the mediator has to understand the issues each group is working on, as well as the knowledge and skills of its members, so that any connections that are activated can round out their knowledge. It is also important to understand what stage a project is at. Those who have just started need to establish bonds that are different from those that are already in a more mature phase. Some connections serve to enrich long-term processes, in projects and groups with an ongoing activity, others provide specific learning, and yet others make more sense in one-off activities (such as workshops, talks or events), as they provide an opportunity for immediate encounters.

Here again there are no unique recipes. Connecting projects and people means having a good map of the centre's ecosystem, one that is as complete and up-to-date as possible, and being able to envisage possibilities in accordance with each circumstance. A task that requires observation, knowledge and creativity.

Investigate

Mediation teams are responsible for mapping stakeholders who can expand networks and connections, strengthen their knowledge of the activities, and contribute their own body of knowledge, practices and networks. This is all done both in a formal way, by making proposals for the programme and the working groups, and in an informal way, by nurturing relationships with the users and within the organisation. Mediation involves study, research, and the continuous development of knowledge and skills aimed at nurturing the overall project. It is a task of constant learning and continuous training, in dialogue with the life of the centre and its different lines of action.

An interesting thing about Medialab, and this is something we will come back to later, is the fact that during their time here, the mediators develop a research project linked to one of the centre's lines of work. That's why we talk about *mediation-research*, understanding that this second dimension adds value to their work in a two-fold sense: they contribute knowledge to the institution as a whole and they use mediation to deepen their respective fields of study. Research is not understood as a solitary activity, because it is en-

riched through mediation, and the relationship with the visitors becomes another element of the research. And both research and mediation must be duly documented.

Invite

The function of inviting is oriented towards external mediation, towards the world outside, the objective being to open up the citizen laboratory to unknown worlds or worlds that are less represented in its ecosystem. It includes nurturing relationships with other agents, whether individuals or organisations, searching for collaborators and project promoters, and identifying different knowledge, approaches or sensitivities, which will enrich what happens in the laboratory and make it more diverse, both in terms of activities and users. Although this variety must be sought at every level, it is important to look at the local context and observe in the immediate environment which people, groups or institutions can become users of the centre or contribute relevant knowledge or experience.

Knowing how to invite - who to invite, when and for what purpose - is a necessary task at any given time, but it is especially so when it comes to supporting the continuity of projects and working groups, since these connections often allow them to continue developing in other contexts, above and beyond their relationship with the centre or the citizen laboratory.

"A GOOD MEDIATION TEAM WILL BE A TEAM THAT HAS A WIDE RANGE OF PROFILES"

2. Mediation skills

Social and interpersonal

Let's begin with something that may seem obvious: to be a good mediator you need to be confident and articulate, and you need to know how to break the ice, have different types of conversations and deal naturally with people from different backgrounds. But you also need other, more subtle skills, such as empathy or the ability to put yourself in the other person's shoes and understand their circumstances, and active listening, which allows you to create a climate of trust and cordiality in which everyone can express themselves. It is essential that you are able to read situations quickly: people's personalities, their relationships with one another, their potential, interests and expectations.

Good mediation does not hog all the speaking space nor does it guide interpersonal relationships, although it is important to do so when necessary, what it does is create the environment for other people to socialise in whatever way is most appropriate for them. It is a skill that requires sensitivity and attention to detail.

Concerning communication

Just like interpersonal skills, communication skills are taken for granted in people who are involved in mediation. They have to be able to express themselves orally and in writing, and to convey information in a clear and structured manner. But they must also adapt the language to each situation, know how to convey the same idea in different tones and registers, from the most informal to the most expert. In the case of Medialab, it is particularly important to translate their philosophy or ways of doing things, making them understandable to all kinds of people. We recommend avoiding specialised jargon or technical terms when they are not necessary, and

being very aware that sometimes language creates distances of authority, barriers between those who think they know and those who think they don't. An important concept can be communicated in many ways, sometimes it doesn't even need to be named. And, on the contrary, you have to be able to express yourself with complete accuracy when the situation requires it: to know the subjects you are talking about thoroughly, with all their nuances and complexities.

Moreover, to be able to provide correct information, you have to have a good understanding of what the other person actually wants or needs. Communication skills are therefore closely linked to active listening, which refers not only to what is expressly said, but also to what is conveyed in a more subtle way through gestures, tones, postures and other forms of non-verbal language.

Group facilitation

In the case of Medialab, projects are articulated through working groups, which is why facilitation skills are important. In these groups, mediation facilitates self-organisation and plays a sensory role: it supervises the functioning of collaborative work and detects difficulties or conflicts, helping the people involved to resolve them by their own means, whenever possible. Learning to manage differences is part and parcel of each group's development, so the more autonomy they have, the better. The goal is to achieve a close, almost family environment in which everyone feels at ease, bearing in mind - and this is important - that no two people are alike or relate to one another in the same way, and there are often asymmetries or imbalances of power due to gender, age, race, culture, origin, educational level or values. Group facilitation sometimes involves helping to "mediate in diversity", bearing in mind that everyone's circumstances are different.

It is useful to provide methodologies for participation and for allocating turns for speaking, group dynamics, tools for face-to-face and online collective work, but, as we said before, always encouraging the autonomy of the groups.

Sometimes, facilitation is also necessary between the groups themselves and between the user communities and the centre's management, as here too, differences can arise because of the positions each party occupies.

Creativity

Creativity is transversal to all the other skills. From personal relationships to communication, from task coordination to problem solving, creativity allows you to take things out of their box and imagine possibilities, connections or solutions that may not be obvious at first glance. It contributes different points of view and helps to avoid automatic responses, opening up other paths of thought or action. It serves to convey ideas in different languages, to foster relationships and to imagine bonds between people and projects that are not simply the sum of their parts but actually create new and unique situations. Even organisational and logistical tasks benefit when they are approached in a creative way: a problem can be solved by using imagination, one and the same situation can produce answers that nobody expects and can open up unexpected scenarios.

Creativity is especially important because, as we said, mediation tasks in citizens' laboratories are never strictly regulated. They are an ongoing exercise in understanding what is happening - in projects, in relationships between people, in the organisation itself - and in seeking answers according to the circumstances.

Organisational and technical

The organisational skills required in mediation are very varied, as they have to do with accompanying open processes, in which nobody really knows what's going to happen because more often than not no plan has been drawn up beforehand, it's taking shape as it progresses. Therefore, you have to know how to manage different projects simultaneously, coordinate teams, manage resources, monitor schedules and work times, switch between tasks and timeframes that sometimes overlap, organising them in line with changing priorities and needs, you have to be able to anticipate situations, visualise different scenarios and take the initiative proactively. It is a question of balancing different skills: that of working in a structured way and with a certain amount of planning, and that of reacting to unforeseen events, constantly adapting to changes, both in projects and in the organisation itself.

Organisational skills include the use of digital communication and collaborative project management tools (calendars, text editing, etc.), as well as handling electronic devices such as projectors, speakers or Wi-Fi connections at a basic level. You need to make sure that these logistical needs are covered, providing users and groups with everything they need for their activity.

ACTIVITY
PROTOTYPING WORKSHOPS
THINGS MADE BY PEOPLE
BYE BYE

ARRIVES

DO YOU KNOW MEDIALAB? IF YOU NEED ME TO TELL YOU WHAT IT'S ALL ABOUT FEEL FREE TO ASK

SEES LOTS OF POST IT

WE'D LOVE TO STAY

WHY DON'T YOU SET UP A WORKING GROUP?

PEOPLE DOING THINGS TOGETHER

I DON'T GET MEDIALAB BUT I WANT TO DO SOMETHING WITH YOU GUYS

PROGRAMMED VISIT

I'M WORKING ON ACCESIBILITY RESEARCH

PERCUSSION WORKSHOP FOR THE DEAF

WEEKS LATER
WORKING GROUP

WORKING GROUP

TIME GOES BYE SO SLOWLY ♪

I'D LIKE TO FOCUS ON WHAT VR CAN BRING TO EDUCATION

WHY DON'T YOU PROPOSE A WORKING GROUP?

TECHNO-ANTS

WORKSHOP

WELL, I'M A BIOLOGIST AND I'M INTERESTED IN CITIZEN SCIENCE

PARTICIPA EN UNA ACTIVIDAD

HAVE YOU HEARD ABOUT THE TECHNO-ANTS GROUP?

TAKES PART IN AN ACTIVITY

LITERARY QUARTER PRODUCTION WORKSHOP

TAKES PART IN A WORKSHOP AND JOINS THE WORKING GROUP

MONTHS LATER

MEDIALAB FRIDAY

TURNS UP WITH THEIR GRANDDAUGHTER

SOME TIME LATER THEY TAKE PART IN AN ACTIVITY

OUTSIDE MEDIALAB

DO YOU KNOW MEDIALAB?

HISTORIAS CRUZADAS

THE CASUAL VISITOR

THE PERSON WHO COMES WITH THEIR GRANDDAUGHTER
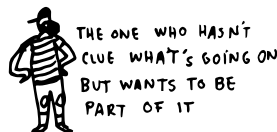
THE ONE WHO HASN'T CLUE WHAT'S GOING ON BUT WANTS TO BE PART OF IT
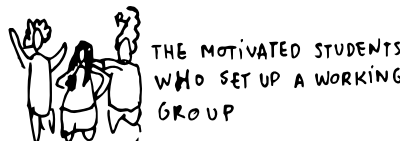
THE MOTIVATED STUDENTS WHO SET UP A WORKING GROUP
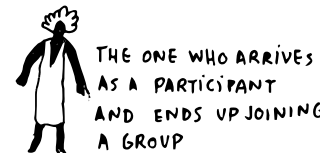
THE ONE WHO ARRIVES AS A PARTICIPANT AND ENDS UP JOINING A GROUP

THE MEDIATOR WHO CONNECTS NEW PROFILES WITH MEDIALAB

THE PERCUSSIONIST WHO TALKS ABOUT MEDIALAB

A mediation manual for citizen laboratories

MS. MOTIVATED | MR. HAPPY | MR. SHY | MS. NEW HERE | MR. I'M NOT SURE | MS. SOCIOLOGIST

MR. RETIRED | MS. WOMAN OF THE WORLD | MR. LIBRARIAN | MR. WHISPERS | MS. ENGINEER | MR. VISIONARY

MS. MAKER | MR MAKER | MS. ARCHITECT | MR. DAD | MS. MANUFACTURER | MS. CIVIL SERVANT

MS. TEACHER | MS. REFERENCES | MS. STUDENT | MR. MISTER | MS. TAXI DRIVER | MR. NERD

MS. WIKI | MR. FREE CULTURE | MS. "FINE FINE" | MR. D.I.Y. | MR. "I DON'T GET IT" | MR PEACEMAKER

MS. GEEK | MS. NEW ARRIVAL | MR. ECOLOGIST | MS. ORGANISED | MS. "I CAN'T TOMORROW" | MS. ARDUINO

MS. NEVER TURNS UP | MR. WONDERFUL | MR. OWN WORST CRITIC | MR. CIVIL SERVANT | MR. BIOLOGIST | MS. PROGRAMMER

MR. MUTE | MS. JOURNALIST | MR. TINY | MS. I LOVE EXCEL | MR. "I'M OFF" | MR. ADOLESCENT

MS. LINUX | MR. TIME FOR A BREAK | MR. ECOLOGIST | MS. MATHS | MR. DRAWER | MS. FACILITATOR

Ongoing and temporary mediation experiences

Due to its temporary nature, we can differentiate between two ways of approaching mediation: stable or long term mediation for a public institution and temporary mediation for a specific project.

By way of an example, we'd like to suggest that we explore permanent mediation through the mediation-research programme at Medialab Prado, and temporary mediation through specific actions such as those that take place in the Experimenta Distrito programme, which involves setting up a citizen laboratory experience in a neighbourhood of the city for five or six months.

Mediation-research: a continuous mediation experience

Medialab has had teams of cultural mediators since 2005, but it wasn't until it opened its new headquarters in the former sawmill in 2013 that the mediation-research project got underway as such. This is the mediation that Medialab provides for the people who come to the centre on a daily basis: visitors, occasional or regular users, communities that collaborate on particular projects and, above all, working groups, each of which has been assigned a reference mediator. This is an example of stable mediation in a permanent space.

Since October 2018, the workers of the mediation-research team have been attached to Medialab Prado through a two-year work contract. The mediators and the research mediators carry out the functions we mentioned earlier but they also work on their own research project, associated to some of the centre's lines of work. This research is related to Medialab in a double sense. On the one hand, through his or her research, the mediator brings their own work themes and areas of interest to the centre, along with their networks and affinity groups, their practical knowledge and their ways of doing things. As in any research process, there is a constant discovery of ideas and approaches that nourish the life of the organisation. And conversely, what happens in the centre feeds the research: the activities that take place, the people and communities that pass through, the exchanges or collaborations, whether formal or informal, all of this broadens, completes or adds nuances to the framework of the research, from other perspectives. It is a two-way relationship.

The research mediators also receive follow-up in the form of tutorials: one on an individual basis - and the idea is that this should take place every two weeks - led by the coordinator of the mediation department

to review tasks and problems, and to look for connections with other ongoing programmes; and another group tutorial, held twice a year, to share information with the rest of the mediation team.

During this two year period, the research project progresses from its initial formulation to a more advanced version resulting from all these exchanges. In some cases the research doesn't go any further than this, in others it continues beyond this point or is reformulated on the basis of the experience gained[2].
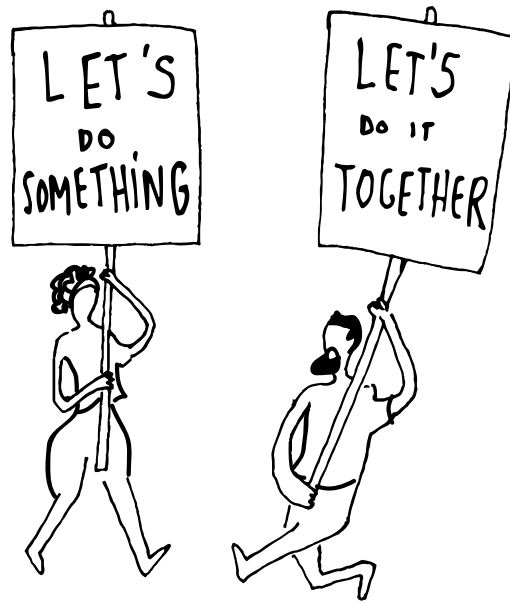
Experimenta Distrito is a good example of mediation for a specific project, as given the fact that this project unfolds in a different place, it requires mediation starting from scratch. Experimenta Distrito is a programme of temporary citizen laboratories initiated by Medialab in 2016[3]. The origin of the programme is a call for proposals aimed at improving the life of the district or its neighbourhoods. The selected proposals are intensively worked on during two weekends with a gap of two or three weeks between them, during which the groups move things forward on their own.

The production or prototyping workshops take place over these weekends, the aim being to create a prototype of the project as a first step towards its possible implementation. A characteristic element of these prototyping workshops that is a common feature of all Medialab workshops is the fact that it is not only the people who present the initial proposal that are responsible for the development of the prototypes, they have to be managed in a collaborative way by a group of people who get involved in them through a call for collaboration. All of them - the promoters of the proposal and the collaborators - make up a working team that will give shape to the final prototype.

In this case, mediation is determined by the circumstances of the programme. The users don't come to Medialab, it's the other way around, it's the institution that approaches the residents of a neighbourhood and the initiatives that already exist in any given context. Nor is there a single space of reference, instead the programme is carried out in different places: associations, community spaces, in the open air, public spaces, etc. And the mediation is not continuous over time, but limited to a few deadlines (usually six months) and specific objectives. In addition, the participants come

from a wider variety of backgrounds than at Medialab.

In Experimenta Distrito, each new edition means starting from scratch. This is why an important part of the work is carried out before the workshop actually begins, namely getting to know the environment in which the work is to be done: mapping people and initiatives, their needs or the points they have in common, encouraging them to present ideas and to forward the call to their communities. The mediation team resolves doubts, helps to turn ideas into proposals and organises activities to spread the word about them. In short, it is responsible for making the connection between the programme and the reality of the neighbourhood. A subtle and in-depth task, which requires listening and interpersonal skills.

The mediation team supports the entire process during the prototyping workshops, from the initial proposal to the prototype, with the help of mentors who provide dynamics and work methodologies. The greatest challenge is to arrive at the final prototype while still managing to maintain a good climate of collaboration: ensuring that everyone's contribution is listened to, that there is a real exchange of experiences and that differences are resolved in a constructive manner. Another challenge has to do with how the Experimenta Distrito experience is integrated into the institution hosting the programme and with ensuring that it, or at least some of its practices, will continue to function in the future as a citizen laboratory.

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[2] Some of Medialab's long-standing projects, such as Wikiesfera or Autofabricantes, have stemmed from mediation-research experiences. For more information about them, see the "Projects and communities" section.

[3] Experimenta Distrito has taken place in different districts of the city of Madrid (Villaverde, Fuencarral-El Pardo, Moratalaz, Retiro and Puente de Vallecas) and in other cities such as Experimenta City of Mexico and Valle Bravo, also in Mexico, or in Burgos and Valladolid in Spain. For more information about Puente de Vallecas Experimenta, see the "Projects and communities". More information at https://www.experimentadistrito.net/.

Other advice and reflections

Participation granularity refers to the fact that there are a variety of entry points and modes of involvement in the collective construction of a project. Different people with different knowledge and interests may want to participate to a greater or lesser extent and contribute in different ways to what is being constructed. Wikipedia is a good example of an initiative that combines different forms of participation, degrees of involvement and levels of expertise. The work of editors who initiate or edit entire articles is important but equally important is the work of proof-readers who check for errors and improve the punctuation, or that of user readers, who are the majority.

Participation granularity does not imply that any form of participation is possible at any given time. Each working group must decide to what extent they want their project to be open at any given time. It is easier to incorporate new members during the initial phases of the project, but when a prototype is being implemented, perhaps what you need are people who want to test it and give feedback.

Occasional participation is also important. In citizen laboratories, you often find that someone who isn't actually a member of a group is asked to contribute to a particular aspect of a project, because of their knowledge or experience. These modes of localised participation, which provide a specific perspective or knowledge, can be crucial to the success of a project and do not necessarily entail a regular presence. Mediation also has the task of encouraging this type of intervention when it is needed.

The fact that participation is voluntary and unpaid facilitates self-organisation, but it can also create discontent when what someone brings to a project corresponds to his or her own professional skills and the participants feel that they are only there to execute tasks within a plan that they haven't helped to define. This is the case in lots of jobs, but in this case, the participants aren't even being paid. Although it is true that the limits are blurred, it is the responsibility of the promoter of the project and the group to make sure that nobody feels that they are mere executors. This is where mediation should assume a supervisory and caring role to avoid misunderstandings.

Architecture and spaces

The architecture of a place conditions the relationships that take place inside it and how it is used. The architecture of a citizen laboratory must foster collaboration and experimentation, be welcoming and hospitable, and make people want to stay.

Welcoming architecture is architecture that allows for many types of uses, with no barriers to accessibility, good signage, private or noise-free spaces, intermediate and transit areas, etc. It must also be able to be modified in accordance with how it is used, with reconfigurable spaces in which you can move the furniture around, change the location of the technical equipment and leave a mark, in other words, the spaces must be reusable, dynamic and lively.

All of the above also applies to digital infrastructures: communication and documentation technologies such as email, websites, social networks, streaming systems and archives, but also technologies of a political or legal nature, such as operating rules or transparency policies. These are all intangible infrastructures, perhaps not as obvious as the physical infrastructure, but essential if what goes on in the centre is to be open and accessible.

From the accessible to the replicable

Given that they are geared towards the common good, projects carried out in citizen laboratories must not only be accessible but also potentially replicable, so that anyone can continue working on them, expanding them, modifying them and implementing them in other contexts. This is why projects or prototypes are encouraged to use free licenses (the most common being Creative Commons, but there are others) or to make them available in the public domain. The use of these licenses increases their scope and replicability in other contexts, and encourages collaborative networks. That is why it is so important that projects should be properly documented, as this is the only way to ensure that an idea can actually be re-appropriated and applied to other situations. Encouraging project replicability is also a task of mediation.

The difficulty of balancing time and needs

Mediators have many roles and tasks, and it is by no means easy to decide how much time should be devoted to each one. That's why one difficulty that is frequently encountered is learning how to manage time. Most need a combination of long timeframes for processes that require more maturity or development (such as research, hatching ideas or networking), and short or even very short timeframes, for situations that need to be resolved immediately, when an emergency or an opportunity arises that calls for a rapid reaction. Good mediation is capable of understanding and adapting to these temporalities, while another factor is the different rhythms of the people, organisations and agents involved.

But we should bear in mind that a mediator is not just another collaborator. He or she must remain close-by and accessible, but in the right measure, without creating dependencies and providing maximum autonomy for the teams, since, as the project progresses, they will require other types of accompaniment.

Another challenge is to strike the right balance between a planning vision, which offers security in a sustained manner over time, and a flexible and spontaneous attitude, which allows projects to find their own rhythm, adapt to circumstances, and take advantage of opportunities and emerging dynamics; in other words, to allow the unexpected to be part and parcel of the life of the group in a natural and productive way, and to allow processes to settle before they pick up momentum again. This means being structured, but not rigid, knowing how to plan and knowing how to break the planning, and also reserving time for some fun, a little partying and things that may seem to be unproductive but can actually generate other kinds of bonds. These balances are difficult to measure - and impossible to plan - but knowing how to juggle them is part of good mediation.

Relationship with other areas

Sometimes it's hard to know how far mediation goes. On the one hand, as everything is potentially a factor of mediation: the programme, the architecture, the website, the team, i.e., everyone from the security guards to the administrative department... every area of the centre contributes to the atmosphere breathed in it. And on the other hand because, as we said at the beginning, one of the keys of citizen laboratories is that mediation should not be seen as a complementary task, but as an integral one. This entails interdependent relations with practically all the areas of the centre, but more particularly with two of them: programming and production.

In citizen laboratories, programming comes from several places: from the area specifically devoted to programming, from the projects and the working groups, from external proposals and from the mediation team. Here we need to differentiate between the programming of production-oriented collaborative prototyping workshops and the programming of such activities as conferences, training workshops, concerts or exhibitions. The latter can be a complement, they can enrich the development of the projects and work

as an entry point for new participants. But if too much time and resources are devoted to activities of this nature, the main function of the citizen laboratory, which is to provide places for collaboration, experimentation and the collective creation of projects, may be affected. Another strong interdependence is with the production area. The mediation team is not responsible for logistical tasks, but, as it is in permanent contact with users and working groups, it is up to them to identify their needs and convey them. Moreover, in practice, it will often have to respond to these needs when no one else is available or when the dynamics of the activity itself requires an immediate reaction. This also means being "a good host". It is true that logistical tasks are repetitive and place a burden on the team's day-to-day work (unlike creative or sociability tasks, which are more stimulating and better valued), but they must all be covered by and distributed equally among the whole team.

In short, there are no one-size-fits-all solutions here either, in each case you have to gauge how far you can and should go. Mediation must strive for a fluid exchange with the production and programming areas, but without being absorbed by either, it needs to maintain its own specificity and timeframes and make sure it doesn't slide into hierarchical relationships. A good mediation will make itself felt in the relationships the centre has with the outside world or with its user communities and those on the inside, in the transversal relationship between areas. It is a difficult challenge, as it implies advancing in learning how to collaborate within the organisation as well.

Working conditions

A characteristic of many cultural centres is that the mediation teams are not permanent staff, they are seconded from external companies. This is a paradox of cultural institutions: mediation is presented as a key element, but sometimes its link with the centres is fragile, externalised or precarious. Institutional and structural stability is essential for good mediation: good working conditions, stable and well-organised working teams, a sufficient budget and infrastructure appropriate to the tasks to be carried out.

At Medialab, moreover, recruitment is temporary and linked to the development of a research project for a period of two years (as explained in the section "Mediation-research: a continuous mediation experience"). This regular turnover of the mediation team has both advantages and disadvantages. On the one hand, each team has to start from scratch, which means relinquishing the experience acquired by the previous one and having to build new personal relationships with users and the management team. Each mediator has a different background and brings unique elements to the projects he or she works with and to the institution as a whole, and therefore can never be completely replaced by another. Each one is, in some way or other, irreplaceable. But, on the other hand, rotation adds diversity and allows different types of people to gain experience in this type of task. It enriches and refreshes teams. On the other hand, mediation is a demanding activity, with mechanical or repetitive tasks that require large doses of attention and enthusiasm that not everyone is willing to undertake for very long periods of time. In the case of mediation-research, we also have to take its training dimension into account: it is a temporary experience because it is an experience of learning and immersion in a specific work environment, in which the person involved becomes familiar with certain ways of working, with networks of agents, with an entire ecosystem. It is an intense and potentially transformative experience, both for the mediator and for the organisation.

FRONT OR SOCIALISING AREA

REGION RESPONSIVE FOR UNDERSTANDING DIFFERENT LEVELS OF PARTICIPATION

AREA OF FACILITATION

INTERPERSONAL SOCIAL LOBE

SELF-CONFIDENCE CENTRE

WELCOME NODE

CENTER FOR KNOWLEDGE INTEGRATION

ACTIVE LISTENING FRONT

DIVERSITY MANAGEMENT REGION

SUB-AREA RESPONSIBLE FOR COMMUNICATING THE CENTER'S PHILOSOPHY

AREA OF EMPATHY

COMMUNICATION AREA

BODY RESPONSIVE FOR RELATIONS WITH EXTERNAL INSTITUTIONS

CONCEPT TRANSLATION CENTRE

PROJECT CONNECTION NODE

CALLOUSED OR ORGANIZATION AREA

AREA OF CREATIVITY

MODULE FOR DIGITAL TOOLS

CALENDAR MANAGEMENT LOBE

WI-FI CONNECTION MANAGEMENT POINT

Some conclusions

We have made an effort in this manual to delimit it and to explore in depth what mediation implies in citizen laboratories, but in fact everything mediates in the relationship between a cultural centre (or any other type of organisation) and its environment. As we said at the beginning, mediation consists of being a good host: welcoming, accompanying and looking after people and processes, taking into account that the context and needs are always different. It is, in short, a form of hospitality.

The work of mediation is also similar to what in horticulture and particularly in permaculture is referred to as "cultivating the soil": the work of creating the right substrate for cultivation, a fertile and balanced soil rich in nutrients and micro-organisms. It is slow, long-term work, sometimes invisible, yet fundamental if the plants are to germinate and grow. When the soil is cultivated, the fruit comes naturally.

Cultivating soil is a task that is tied to the territory, in which design principles tailored to each case are applied, associations that are beneficial to diversity are taken into account, and a unique method is developed from observation and accumulated learning.

As in a collective garden, a citizen laboratory is an imperfect space that is alive, in permanent construction and that calls for action within a community, a place where different things happen and where people, objectives, tasks and priorities change every day. In this context, mediation is everything that provides the keys to involvement and participation.

In the same way, each cultural centre is also different. Each one is a unique and singular ecosystem that will have to find its own mediation model. This manual contains a number of basic ideas that have emerged from the specific context of Medialab, but in no way does it aim to provide a single model that is valid in every case. What makes citizen laboratories interesting is precisely the fact that they listen to their respective environments. Creating their own model of mediation, based on their needs and communities, through a process of permanent trial and error, is part of the life of a citizen laboratory.

Materials and references

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The mediation teams of Medialab Prado have been formed by:

From 2006 to 2011:
Álex Narváez, Ana Franco, Ana Romeral, Antía Vilela, Clara Domínguez, Daniel Fernández, Daniel González, Daniel Santiago, Eduardo Pinillos, Esperanza Portillo, Frédérique Muscinési, Gabriel Lucas, Irene Vicente, Jara Rocha, Lara Cano, Laura Limón, María Botella, María Iglesias-Sarria, Maura Sánchez Escudero, Pablo García, Patricia de Andrés, Patricia Domínguez Larrondo, Paula Pallares, Rocío Lara, Rosa Suárez, Sibley Labandeira, Sonia Martínez.

From 2012 to 2013:
Alma Orozco (Funcionamientos: Open Design from the Perspective of Functional Diversity); David Rodríguez (FoodLab: Creating Sitopia / Making a Neighbourhood); María Perulero (Commons Economics); Mónica Montoya (Fluoride Station); Myriam Cea (Libre Graphics); Roberto Flórez (Restoring Relations); Sara Alvarellos (Creative Hardware); Sergio Galán (CCode).

From 2014 to 2015:
Inés Bebea (Learning: Critical Digital Education); Lorena Ruiz (Care); Marta G. Franco (TeenFavs); Nacho Cossío (Creative Technology); Nuria del Río (Financing the New Social Complexity); Patricia Horrillo (Citizen Journalism); Silvia Nanclares (Libre Book).

From 2015 to 2017:
Chema Blanco (PermaSource); Diana Canela (The Back Office of Governance); Elisabeth Lorenzi (Open Textiles); Francisco Díaz (Makers); Jesús Jara (Sound Technologies); Julián Pérez (Streaming and Creative Processes); Julio Albarrán (Cronicalab); Mar Delgado (Philobotics); Sara San Gregorio (Digital Scale).

From 2018 to 2020:
Adrián de Miguel Simón (Prototyping the Narrative); Alejandro Martín Jimeno (Computational Linguistics: What can (and what do) they do in our day-to-day life?); Cristina Martínez Aransay (Territories Inhabited and Desired by Women); Elena Oliveros Palomo (Citizen Narratives on the Agenda 2030 and the SDG); Manuel Prados Sánchez (The Languages of Art at the Limits of Perception); Silvia Teixeira (DIY Satellites).

From 2016 to 2020, within the Experimenta Distrito programme:
Adela Salgado; Alberto Peralta; Ana Franco; Camila René Maggi; Camila Renè Maggi; Cecilia Montero de Espinosa Meléndez; David Haro Ferrán; Gema Fernández-Blanco; Helena de Almeida Ramos; Jesús Muñoz; Joan González Yamada; Jorge Marrón Abascal; Juanjo López Cediel; Laura Alises Fernández; María Antonia Zamorano; Marianna Papapietro; Mónica Montoya; Paloma Ortega; Pedro Rodríguez; Ruth León; Sandra Pintos

In addition to everyone mentioned above, we must also add all the people who have occasionally collaborated in mediation and facilitation work in Medialab Prado programmes and activities over the last 12 years.