ENCOUNTERS, COFFEES AND CONFLICTS: REFLECTIONS FROM AN ACTION-RESEARCH ON FEMINIST AUTONOMOUS NETWORK

Acknowledgements

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Published on December 2021.

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INTRODUCTION

This article summarizes reflections of the action-research project developed between 2019 and 2021 by a group composed exclusively of women[1], who set up a community network in an area without internet connectivity in Brazil - the *quilombo Terra Seca*, while conducting a participatory research process on information and communication technologies, more specifically community networks, through an intersectional feminist lens.

This action-research project envisages the implementation of a Wi-Fi community network in *quilombo Terra Seca,* pursuing the involvement of the entire region in multiple workshops and knowledge exchanges about: networks; feminist infrastructures; popular education; agroecology; gender and race relations; traditional and digital technologies; technology and communication autonomy. And contemplate the production of knowledge in this field based on two initial research questions that would guide our reflections from the experiences with the local community: how to

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[1]Our facilitation and research group was composed by six women with a multidisciplinary background: Bruna Zanolli is an activist in the area of autonomous communications and human rights with interest in intersectional feminist and popular education principles as tools to narrow the gaps of access.

Carla Jancz is an Information Security Specialist, who works with digital security for third sector organizations and with free technologies and autonomous networks from a feminist and holistic perspective. Member of MariaLab, a feminist hacker collective that explores the intersection between gender and technology based in São Paulo, Brazil.

Daiane Araujo dos Santos is a Brazilian activist in human rights and in the Information and Communication Technologies field who contributes to the implementation of community networks in Brazil, bringing discussions about critical appropriation of technology and its impact on people's social and community life. Living in the periphery of the south of São Paulo (Brazil), she graduated in Geography in 2018 and, since 2010, works in social movements.

Débora Prado is a journalist and activist with a background in social communications, feminism and human rights. Since 2017 she has been involved in researching feminist technologies and knowledge to challenge androcentric and colonial norms.

Glaucia Marques is an agronomist and is part of the SOF (Sempreviva Feminist Organization) technical team that operates in the Vale do Ribeira region, contributing with the solidarity commercialization and with agroecological and feminist technical assistance for the Agroecological Network of Women Farmers (RAMA, in the acronym in Portuguese).

Natália Santos Lobo is an agroecologist and part of SOF's technical team in Vale do Ribeira, working with the RAMA network.

expand the reach of community network technologies among women and traditional populations, considering the power relations that transverse the prospect of autonomous connectivity and communication? And what are the main shifts when a technological infrastructure is thought of and developed through an intersectional feminist perspective? Considering the intersectional lens, we also add a structural question to ourselves throughout the development of the project: how race is connected to unequal power and systemic structures in this experience, considering that this project was carried by our group[2], composed mostly by white women, in a territory of black women?

More than reaching answers, the questions has helped us to expand a set of reflections from the encounter between different ways of living and of producing knowledge and techniques that escape to some extent to normative models in the field of digital technologies[3], such as white male predominance in this field and the processes of concentration of power on the internet by large corporations that use manipulative and non-transparent models of relations with these technologies. The aim of this article is to share part of the reflections that have emerged from our experience, with the expectation of contributing to research and initiatives for technological appropriation that also devote themselves to strengthening diversity in these two fields.

It is worth sharing that we understand community networks (CN) as a connectivity solution to reduce the lack of access[4] through the collective installation of a local-level infrastructure and shared management of the technical and human aspects of a network. Recently, community networks have been perceived as an alternative to the

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[2]In this article, when we use us and refer to 'our group' we are considering the group of feminist activists and from the field of technology and popular education who became engaged in different ways throughout the execution of the action-research project and contributed to the preparation of methodologies and each trip to the Ribeira Valley. Although in an attempt to break with hierarchical practices in the field of research we have adopted participatory processes and a lens of encounter between different subjects - our group and the residents of the Vale do Ribeira region - it seemed artificial to us not to differentiate the group that led this project from the local community. This could sound like an attempt on our part to 'speak for the community' and not with the community. In that sense, identifying our group seemed important to explain that the intention here is really to explore the power of the encounters that this project has provided, positioning the different parts involved.

[3]ZANOLLI, Bruna; JANCZ, Carla; GONZALES, Cristiana; ARAUJO, Daiane; OLIVEIRA, Débora Prado. Feminist infrastructure and community networks: an opportunity to rethink our connections from the bottom up, seeking diversity and autonomy. In: Global Information Society Watch 2018: Community Networks. APC, 2018 (https://www.giswatch.org/en/infrastructure/feminist-infrastructures-and-community-networks)

[4]Based on the reflections made and references gather by Bruna Zanolli at https://foundation.mozilla.org/en/blog/why-do-people-communities-need-connectivity/

search for greater autonomy in relation to communication and connectivity and to promote local social interactions - in distinct territories - with digital infrastructures[5]. As a result, the debate on community networks has been gaining new perspectives, going beyond the field of connectivity solutions for places and populations without internet access, to become linked to other political agendas, such as critical perspectives of the internet and engagement in human rights struggles. Among the multiplicity of agendas that can permeate the process of installation and maintenance of community networks, is the intersectional feminist[6] perspective, which seeks to make this field welcoming to different groups and bodies, including different women.

The article will initially present the elements from this encounter with a brief presentation of the quilombo *Terra Seca* and references of the women who met in our group. Then, we will share an overview of the methodological approach we have adopted along this journey and the project's trajectory over the course of two years. We finalize by bringing together our reflections around three topics that have emerged as fundamental in our process: 1) the meaning of feminist infrastructures[7] for this community network, 2) the importance of the perspective of race and 3) our learning in the process of attempting to translate intersectional principles and intentions into practice while facing the constant presence of the unforeseen.

We want to highlight that among unforeseen events was one that we could not have been imagined at the beginning of this journey: the emergence of a global pandemic and its profound negative impacts in Brazil, aggravated by the fact that we are going through a global health emergency under a far-right government that denies science

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[5] Based on the reflections made and references gather by Débora Prado at
https://www.genderit.org/es/node/5348

[6] Kimberlé Williams Crenshaw conceptualised intersectionality to denote the various ways in which race and gender interact to shape the multiple dimensions of black women's employment experiences. Although her theory has aroused controversy, Crenshaw helped to make visible some of the dynamics of structural intersectionality and pointed out that people and groups experience the overlapping of discriminatory systems. She also pointed out the limits in identity politics, affirming that its problem "is not that it fails to transcend difference, as some critics charge, but rather the opposite – that it frequently conflates or ignores intra group differences." For more information, see:
https://www.racialequitytools.org/resourcefiles/mapping-margins.pdf

[7] More about Feminist Infrastructures in:
TOUPIN S., HACHE, A (2015). Feminist autonomous infrastructures. Global Information Society Watch 2015: Sexual rights and the internet. APC and Hivos (www.giswatch.org/sites/default/files/gw2015-hache.pdf)
ZANOLLI, Bruna; JANCZ, Carla; GONZALES, Cristiana; ARAUJO, Daiane; OLIVEIRA, Débora Prado. Feminist infrastructure and community networks: an opportunity to rethink our connections from the bottom up, seeking diversity and autonomy. In: Global Information Society Watch 2018: Community Networks. APC, 2018 (https://www.giswatch.org/en/infrastructure/feminist-infrastructures-and-community-networks)

and public health measures, violates human rights and adopts an anti-feminist stance and aggressive authoritarian inclination towards traditional communities, such as *quilombolas*[8]. In this article, we will not delve into these developments, but we consider it is important to point out briefly how this difficult context frames our reflections when sharing the project's findings.

THE ELEMENTS OF OUR ENCOUNTER

Beginning with the widespread notion of community networks presented above, we land this project in Latin America, Brazil, in the Vale do Ribeira (Ribeira Valley in a free translation) region in the state of São Paulo, in the city of Barra do Turvo, and more specifically, in the *quilombo Terra Seca*.

The Ribeira Valley is a region in Brazil comprising 25 cities, including Barra do Turvo, where seven *quilombo*s are located, recognized by the Brazilian authorities. One of them is the *quilombo Terra Seca*, where our community network has emerged through this action-research project.

In the second half of the 20th century, so-called "development" projects, such as the construction of roads, dams, and mining, arrived in this region. At the same time, the Ribeira Valley officialized three national parks. It is not difficult to imagine how the history of this region is affected by land conflicts and struggles for better living conditions[9]. However, the region also carries memories of resistance:

> Ribeira Valley, located in the extreme south of the state of São Paulo, is the largest area of continuous Atlantic Forest remnants in Brazil. The presence of countless traditional communities made it possible to conserve these areas. In the region there are 24 indigenous Guarani villages, 66 Quilombola communities and 7,037 family farming establishments that involve traditional peasants (the 'caipiras'), traditional fishermen ('caiçaras') and migrants from the Brazilian

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[8]According to Daine dos Santos Araújo, Quilombos emerged as refuges for black people who escaped repression during the entire period of slavery in Brazil, between the 16th and 19th centuries. The inhabitants of these communities are called quilombolas. After the abolition, most of them preferred to continue in the villages they formed. With the 1988 Constitution, they gained the right to own and use the land they were on. Today Brazil has more than fifteen thousand quilombola communities. Available at: https://www.genderit.org/feminist-talk/contribution-bell-hooks-and-paulo-freire-construction-community-networks

[9]Hillenkamp. Isabelle; Nobre, Miriam, 2018. More information available in Portuguese at http://www.sof.org.br/wp-content/uploads/2018/03/Praticas-feministas-portugu%C3%AAs-web1.pdf

metropolises, in general, children of farming parents expelled from the land in the past and pushed into urban areas and now returning to rural activity[10].

Considering how different realities are impacted in specific ways by socio-technical networks, locating this project in a country and in a territory crossed by structural inequalities helps us to put into perspective how community networks are especially necessary for places where many rights are not guaranteed. Technical problems are often the simplest to solve and connectivity many times becomes another missing piece within a large puzzle of absences and of endurances, where many non-digital technologies[11], such as analogue and ancestral technologies, are mobilized every day.

In this context, since 2015, the Brazilian feminist organization SOF *(Sempre Viva Organização Feminista in Portuguese)* has been working with women farmers in the quilombola regions with a feminist and agroecological perspective, which is based on an understanding of economics centred around the reproduction of all the resources necessary for life. In this sense, food production and consumption are taken as a starting point in seeking the democratization of all power relations involved in social reproduction[12].

SOF has been working with the local Agroecological Network of Women Farmers (RAMA), composed by groups of women from 8 communities[13] in Barra do Turvo. According to SOF, the transition to feminist agroecology in *Barra do Turvo* is an

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[10]Carla Jancz, Gláucia Marques, Miriam Nobre, Renata Moreno, Rosana Miranda, Sheyla Saori, Vivian Franco. Práticas feministas de transformação da economia: autonomia das mulheres e agroecologia no Vale do Ribeira.São Paulo: SOF, 2018. (The quote is a free translation. Original available in Portuguese at http://www.sof.org.br/wp-content/uploads/2018/03/Praticas-feministas-portugu%C3%AAs-web1.pdf)

[11]Throughout our encounter with the community, in this project we jointly defined technology, in one of the immersions, as everything that involves a particular wisdom and ability to be materialized, and not just digital paraphernalia.

[12]Hillenkamp. Isabelle; Nobre, Miriam, 2018. More information available in Portuguese at http://www.sof.org.br/wp-content/uploads/2018/03/Praticas-feministas-portugu%C3%AAs-web1.pdf

[13]These are the groups articulated at RAMA: As Margaridas (Bairro Indaiatuba), Rosas do Vale (Bairro Córrego da Onça e do Franco), As Perobas (Quilombo Terra Seca), Mulheres do Quilombo Ribeirão Grande, Mulheres do Quilombo Cedro, Mulheres do Bairro Rio Vermelho, Grupo Esperança (Bairro Bela Vista), Mulheres do Conchas. The women's group called Perobas is the RAMA subgroup that brings together women from the Terra Seca quilombo. They are quilombola agroecological farmers who gather together to organize the women of the neighborhood in their insertion mixed organizations (in cooperatives and associations for example). They also do their own actions for the group of women in the neighborhood and get together to market their products to responsible consumers in the cities of Registro and São Paulo. More information available in Portuguese at: https://www.sof.org.br/2020-comecou-com-mais-um-encontro-de-redes-de-comercializacao-solidaria-em-barra-do-turvo/

ongoing process that seeks to value women's work, promote economic autonomy and re-negotiate gender roles between women and men in the region.

This previous work carried out by SOF and the relationship of trust they built with the networks of local women farmers was fundamental for this action-research project. Firstly, because it was SOF, in contact with RAMA and the feminist organization MariaLab[14] who, in seeking to realize communication autonomy in the territory, began to imagine a community network in the Ribeira Valley region, back in 2017:

> In the Ribeira Valley, we took the first steps to seek communication autonomy with the realization of the project's information technology workshops "Capacity building and sharing experiences for an inclusive economy", with the support of the British Council's Newton Fund. In this initial visit, a network technician made a first general analysis of the territory and talked to the women about the possibility of installing an autonomous network to distribute internet on-site in the future[15].

The proposal of the community network, therefore, begins with a goal of potentializing the sale of agroecological products through the solidarity economy networks carried by the women farmers of the Ribeira Valley. Furthermore, there was an underlying affinity between the idea of seeking political autonomy, which feminist and quilombola movements already incorporated, with the objective of pursuing communication and technological autonomy that is usually integrated into community network and feminist infrastructure projects[16]. At the time this first workshop was held in the region, however, there were no resources to the community network implementation or to perform the necessary knowledge building for its sustainability[17]. Thus, the possibility of an alliance with our action-research project emerged in 2019.

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[14]https://www.marialab.org/

[15] Carla Jancz, Gláucia Marques, Miriam Nobre, Renata Moreno, Rosana Miranda, Sheyla Saori, Vivian Franco. Práticas feministas de transformação da economia: autonomia das mulheres e agroecologia no Vale do Ribeira.São Paulo: SOF, 2018. (The quote is a free translation. Original available in Portuguese at http://www.sof.org.br/wp-content/uploads/2018/03/Praticas-feministas-portugu%C3%AAs-web1.pdf)

[16]The feminist activist Loreto Bravo (2017), writing about mobile in Oaxaca (México), proposes an ethical-political bridge between the hacker community and local communities to advance a conception of sovereignty technological for concepts of autonomy and self-determination. There is a rupture here in terms of not using a sovereignty approach that could be associated with development of nation-states, considering their role in the colonization process, nor think in terms of individual freedoms, in a more liberal tradition, but leaving the flow open for local meaning and for more collective approaches. In this sense, in addition to collectivity and interdependence, the territorialization and local contextualization are also constitutive of the notion of autonomy. Available at: https://www.ritimo.org/IMG/pdf/sobtech2-en-with-covers-web-150dpi-2018-01-10.pdf

[17]More information In: Feminist Practices of Economic Transformation (Práticas Feministas de Transformação da Economia).

With this background of a partnership between the women of SOF and the RAMA network, our project arrived in the territory not only with a desire for a community network already expressed, but also endorsed by an active and respected feminist group, where alliances between the women were shared. This meant starting the construction of a socio-technical network in a situation where social ties and political articulation already existed and was already open to an inclusive approach. It also meant having as a starting point for the relations that had established themselves around the new community network: a human network already made up of a group of articulated women.

To point out, even as an overview, the elements of this meeting is fundamental, because the reflections we have built would not be possible without these links between bodies and backgrounds of diverse social groups and knowledge fields, that are crossed by historical and structural inequalities in different ways – and that are, at the same time, places of resistance and cultivation of other ways of living and weaving technologies.

NOTES ON METHODOLOGY AND AN OVERVIEW OF THE PROJECT'S TRAJECTORY

At this point, it is important to highlight that for us the encounter works as an important methodology. We consider that the encounter this project allowed was central for the knowledge that emerged from it, once it was a fundamental step to build relationships through consensus and conflict, agreement and disagreements, similarities and differences. They started with the encounter between the SOF and the quilombola women farmers in the region, and then between them and the Brazilian women involved in this action-research project; and finally in the group of people articulated in the feminist internet research network (FIRN)[18] from APC, who supported the realization of this project between 2019 and 2021 - not only with grants but through constant feedback to our reflections and by providing exchanges with other researchers from the Global south. The articulations between different social groups and bodies established weaved our reflections in this action research and emerged as fundamental to make the intersectional approach concrete.

As researchers who carry references of intersectional feminism (COLLINS, 2017; CRENSHAW, 2002; PISCITELLI, 2009) and from the field of popular education (FREIRE, 2004; HOOKS, 1994), we are guided by a commitment to break hierarchies as much as possible among researchers, articulators, technicians, and the community members. It

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[18] https://www.apc.org/en/project/firn-feminist-internet-research-network

is worth mentioning that one of our methodological choices is seeking to disrupt colonial legacies in research production, and escape from pretensions of research neutrality or schemes that hierarchize the multiple subjects and knowledge[19] (HARAWAY,1995; RIBEIRO, 2018).

In a similar sense, thinking about the technologies, we bring to this project, from experiences in the field and our activism, the wish to avoid reproducing the notion that only experts and technicians are people who have the best solutions to problems in local communities, or that digital technologies and internet connectivity can bring magical solutions to local, historical and complex problems. Under such perspective, many times there is an assumption that communities facing inequalities and discrimination are in definitive need of "magical" top-down solutions, which can lead to the reproduction of hegemonic narratives, presenting some social-technological choices as universal to the detriment of already existing experiences, local knowledge and multiple forms of communication and bond[20].

In this context, we bring our experience around the field of feminist infrastructures - which includes servers, networks, cables, antennas, software, hardware, and the use of the electromagnetic spectrum, protocols, and algorithms. But are also made of spaces, temporalities, priorities, relations between humans and machines, and agreements that can be (but not always are) established, verbalized, visible and renegotiated when necessary[21]. Feminist infrastructures, therefore, are not only electronic materiality produced by women and non-binary people, but who also make a commitment to rethinking through other perspectives: priorities, organization of space and time, agreements, relationships between people and groups, and even between humans and machines. We also bring our experience with popular education, considering that it could bring synergies with community networks and enhance social justice processes[22] by proposing a collective and shared approach to learning experiences

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[19]In this sense, throughout the article, the reflections of the local community, the women of our group and the bibliographic references in which we rely on are presented in this same perspective and intertwined. It seems trivial and basic to point this out in the field of feminist research, but in the face of hierarchical practices that remain in much research, we find it important to record.

[20]Zanolli, Bruna; Jancz, Carla; Gonzales, Cristiana; Araujo, Daiane; Oliveira, Débora Prado. Feminist infrastructure and community networks: an opportunity to rethink our connections from the bottom up, seeking diversity and autonomy. In: Global Information Society Watch 2018: Community Networks. APC, 2018. Available at: https://www.giswatch.org/en/infrastructure/feminist-infrastructures-and-community-networks

[21]Based on Débora Prado reflections at https://www.genderit.org/es/node/5348

[22]Based on Daiane Araujo dos Santos reflections at https://www.genderit.org/feminist-talk/contribution-bell-hooks-and-paulo-freire-construction-community-networks

and knowledge building. Considering these backgrounds and perspectives, help us to put the encounter in the methodological spotlight once it emerges as a key element to the research.

Guided by these references and recognizing that the practice would bring new challenges, we have sought to outline a methodology that could provide the realization of collective reflections throughout the project. We agreed, therefore, that we would always do a preparation stage prior to each field visit, a period of immersed workshops in the community and a reflection on the immersion on our return from each visit, which would inform the preparation of the next visit and so on.

The option for immersion for longer periods and the realization of more visits to Quilombo Terra Seca arose from the conversation with a local leader, Nilce de Pontes Pereira dos Santos[23], during the preparation of the installation process of the community network. Nilce indicated to us that the community faced a challenge related to temporality in this type of partnership with research projects before, and more specifically, with the lack of time researchers tend to stay in the territory and establish collaboration in the rural communities, where the relationship with time is different from that of large cities. In a preparatory conversation for our first trip to Quilombo, Nilce expressed enthusiasm with the idea of the community network in the region, but also expressed some concerns about the process: 1) she complained about some researchers from Brazilian Universities, who went to the territory, collected data and never returned; 2) expressed concern with the appropriation of local knowledge by people associated with research institutions; 3) pointed out the issues with different temporalities between the field and the city, mentioned above; and 4) also expressed her concern about security issues in the use of the new network, especially in relation to young people using digital networks.

After the initial talk with community members and SOF partners, we considered that we should maintain a mixed methodological perspective, combining qualitative and quantitative approaches. Agreeing that we should prioritize collective activities and participatory processes rather than individual approaches for data collection, such as interviews. Additionally, we did literature research, seeking other academic references about the Quilombos in this region to avoid repeating questions that other research projects might have already asked before. Between the beginning of the project and March 2020, we followed this methodology and went to the Quilombo Terra Seca five times. We stayed for between three and five days in each visit performing immersive

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[23]Nilce de Pontes Pereira dos Santos is the founder of the Association of Quilombos Remnants of Riberão Grande and neighborhoods of the city of Barra do Turvo, and representative of the National Coordination of Quilombola Communities (CONAQ) within the National Agroecological Articulation.

processes of knowledge exchange towards the collective installation of the community network.

In these immersions[24], we held several workshops on technopolitics and communication and facilitated moments where community residents were able to collectively dream about the future of the community network. Their expectations around the development of the community network returned as follows:

- To help young people with schoolwork;
- Be a tool for the network of women farmers to communicate better and organize their economic activities;
- Assist in the organization and scheduling of multiple meetings that take place in the community;
- Establish a server with a collection of cultural and artistic materials such as movies, books, games, and other media downloaded from the Internet;
- Share educational materials and videos on agroecology (e.g., how to manage pests);
- Reflect on how secure are the internet platforms they mostly use, what are the risks they are most vulnerable to and how to better navigate the Internet;
- Promote discussions and knowledge exchanges on social, political, and economic issues that transverse the territory and affect their population.

In this journey, we installed, together with the community, a bamboo tower, a wooden tower and three nodes from a mesh network using LibreMesh[25] installed on accessible CPE antennas and standard routers. So far, they collectively share the signal of a satellite connection between around 15 families - it is not the fastest connectivity, nor perfect for their needs, but it is an important start. In addition, there is a Raspberry Pi[26] with a feminist version of Pirate Box[27], a Fuxico[28], which performs the function of a

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[24]For reasons of format and scope of this article, we will not describe in detail the methodology of each immersion performed, but this is a point that can still be better explored and shared in future developments of this project.

[25] https://libremesh.org/

[26]https://www.raspberrypi.org/

[27]https://piratebox.cc/faq

[28]http://redeautonomafeminista.org/fuxico

small local server, operating as a repository for documents and media exchanges, forums, and a local chat service[29].

Resuming feminist infrastructures perspective, however, it is important to underline that for us the network infrastructure is just one of its aspects, being that with each meeting, gathering and exchange of affection and knowledge between people – the human infrastructure – became even more important than routers and wires. And this was heavily affected by the pandemic.

Due to the health crisis of COVID-19 we had to refrain from going to the community for many months and managed to go once again in January 2021, completing 6 visits in total[30]. In the last trip, we had to adapt our methodology and, instead of the processes of collective conversations and reflections from five previous visits, we ended up carrying out semi-structured interviews with people who participated in the process, aiming to gather elements for a joint evaluation of the trajectory[31]. The situation in Brazil, however, soon worsened again and we were unable to complete all planned visits.

INTERSECTIONAL PRACTICES AND WOMEN PARTICIPATION

Although we kept to our commitment of gender balance among the group mobilized through the immersions[32], this was a challenging goal due to several reasons, which

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[29]There is a desire to install a more robust server to have more services available on the local network, operational without going through the meter of data packages provided via satellite, but it was not possible to reach this stage with the delays caused by the pandemic.

[30]In this visit, during the pandemic, we developed a safety protocol based on the guidelines from health authorities – which allowed for a smaller group of people to go, wearing N95 masks, and having testing for COVID-19 for all people who would be sharing accommodation. We were no longer able to have collective meals and suspend immersions to avoid many people gathering. We also avoided entering the residents' homes, limiting our close contact with the people living in the territory.

[31]We agreed that these interviews for evaluation would be anonymized and brought forward over the following topics, summaries. In general terms, the community praised the aspect of building the community network together. People said they felt comfortable participating in the immersions and did not report problems that would have kept them away from the spaces created in this project. However, a negative aspect that was pointed out is the pandemic and the long periods of suspended activities, which in our perspective remains a challenge for community networks working with feminist infrastructures.

[32]If, on the one hand, women are more often removed from places of technical knowledge and interaction with such infrastructures – a task force becomes explicitly necessary to break with the norms that reinforce this distancing– and on the other hand, we must not understand feminist as synonymous with "made by women". Therefore, in this action-research we have considered an effort in both directions: creating an experience that is both welcoming to women, and at the same time brings the feminist perspective into mixed groups that involves all those in the community who want to participate.

we sought to discuss with the people of the community through the evaluation interviews.[33]

The following table summarizes the participation of women, men, and children in the workshops:

	Sept/19	Nov/19	Dec/19	Feb/20	Mar/20
WOMEN	28	7	11	10	14
MEN	8	6	9	13	7
CHILDREN	10	2	3	5	0

What was most pointed out by community members was the great evasion of young women (between 15 and 25 years old) from the territory, who search for work and more opportunities in the nearby cities where there is greater demand for domestic work. They also leave the countryside for the city to study and/or to discover how life could be outside their community. Among those who remain, women tend to have more responsibilities in their homes with care and housework; and there are, in some cases, gender stigmas where parents and husbands do not like women being out of the house and with people they do not know.

It is necessary to remember that, as in other spheres of social life, we are faced with unequal gender roles even in territorialized communities[34] and that this unbalance will have specific impacts in each territory. Having recognized some of these challenges from the beginning of the project and by learning more from the community members, we have tried throughout development, some specific actions to face them such as:

- Performing the immersions at a time compatible with the school and welcoming the children so that the people responsible for their care could be present too.

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[33]Our initial idea was to share our research reflections with the community at the end of the process of installing the network and discuss issues such as these dynamically, following the model of immersions we have performed. However, with the COVID-19 pandemic, completion of the installation of the community network was delayed and, to safeguard all those involved, we had to cancel the collective meetings. Having to change our strategy we then carried out semi-structured interviews with people in the community in March 2021 to capture their reflections. And as a research outcome, we are producing a zine with the reflections of gender and race to send to the community. We hope that we can talk about these reflections with the community soon, once sanitary health conditions in Brazil allow, even if this is done after the closure of this action-research project.

[34]Bidwell, J. Nicholas; Jensen, Michael. Bottom-up connectivity strategies: Community-led small-scale telecommunication infrastructure networks in the global South. APC, 2019. Available at: https://www.apc.org/sites/default/files/bottom-up-connectivity-strategies_0.pdf

- We offered collective meals during the meetings, so that family's food preparation would not become an activity that clashed with our workshops (and instead generate an income for the women in the community who could provide their organic products and services to our project).
- We prioritized being a group of women facilitating the project, hoping that our bodies could help to break any possible idea that the community networks might be an exclusively male activity.
- We also adopted what we call the 'coffee' method, taking the time to go from house to house in the community on the day in which we arrive, so that everyone gets to know us better, and we speak to the women leaders and ensure everyone is invited to join us.
- We arrived in the territory through the partnership with SOF and the women of RAMA, which helped to locate decisions about the future of the community network in the group of women from the beginning. By the link with SOF, they were always involved in decision-making processes - even though they were not all present in every socio-technical workshop. Through the project, they assume the position of guardians of their community network by knowing where the antennas are installed and where their signal reaches and how to communicate where maintenance is needed and do simple troubleshooting. They are also the ones responsible for sharing the password of the network with the families and preventing outlanders from going there just to use their internet.

Although they don't guarantee the women majority we were hoping for, these actions seemed to have worked to some extent, once we managed to keep the proportion between women and men more balanced than in previous processes of community network installations we follow in Brazil. We were also able to get the women from the farmers' network to assume the position of guardians of their community network and they were always involved in decision-making processes - even though they were not all present in every socio-technical workshop. And therefore, understanding the multiple roles needed to keep a community network up and running which can be triggered to engage people with different interests and skills in the process, with the aim of making everyone feel part of the results achieved - and not just those who have effectively learned how to deep in the routers, for example.

We can conclude from our experience that the feminist process is a constant effort that involves men and women and diverse bodies. Keeping in mind that being a feminist is neither a physical condition nor a permanent state, being a feminist is a constant search for more balanced relationships and ethical practices. It is a journey full of tensions and conflicts. Is important to highlight, however, that more than reach a bulletproof process or final result, we were looking for building safe and welcoming

processes and spaces for different people, avoiding the naturalization of inequality and being active when differences, instead of being respected and valued, are mobilized to produce discrimination and to remove certain social groups from the place of technologies and knowledge producers.

This has meant looking at conflict as an opportunity to break silence or invisibility around certain norms. Based on this encounter, our own experiences, feminist references[35] and popular education[36], we consider contradictions and conflicts not as something that needs to be "resolved" or "stabilized", but as potential for collective reflection of different places of speech[37] that can produce relevant community network projects and research. A specific tension that became a trigger for important discussions in our project was the racial issue, which we will address in the following topic.

Another concrete example from this experience happened on one occasion where a teenager expressed that we should not invite young women, in particular, to work on electrical connections, because "they would be clumsy". This led us to have a group conversation about gender and technology, where, as facilitators, we shared our own experiences of gender and technology-related bias and how it can undermine women's self-confidence. In addition, we have specifically called women to do all the electrical connections from that day on, to be sure that we were applying in practice what we were speaking in theory. What could have been regarded as a problem became instead an important conversation, rooted in facts and local experience. And for this to be possible it was necessary to reconcile aspects of preparing the immersive processes with an ability to stay open to the unexpected, and what emerges from the encounter with the community members when we adopt a process of collective learning. In other words, it was necessary to keep our listening and plans open to unforeseen developments, which are only revealed in the territory. Even the initial dialogue with Nilce de Pontes Pereira dos Santos had deeply transformed this project process and without her background and knowledge, this journey would not be the same.

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[35]Our main references come from Feminist Studies in Science and Technology (HARAWAY, 1995; HARDING, 1998; WACJMAN, 2004) and black intersectional feminism (COLLINS, 2017; CRENSHAE, 2002; PISCITELLI, 2009; RIBEIRO, 2018)

[36]Hooks, Bell. Teaching to Transgress: Education As the Practice of Freedom, 1994. Print.

[37]In dialogue with the theoretical legacy of black women and bringing the perspective of the place of speech, the Brazilian philosopher Djamila Ribeiro emphasizes the importance of locating components that are understood as a universal condition - for example, and in particular, discussion around race and racism, which cannot only be done by black people. Ref: Djamila. Ribeiro, Djamila. Que é lugar de fala? Belo Horizonte (MG): Letramento, 2017. (Coleção: Feminismos Plurais)

On another occasion, in our last trip to the Quilombo before the pandemic, we invited a cisgender man to hold a workshop on bamboo treatment, considering that there was the availability of this wood in the territory and that it could be an alternative for building the towers necessary for the installation of antennas in a region with a challenging topology for this type of infrastructure. On one hand, the bamboo workshop was a huge gain for the project, as it raised a lot of interest among the people of the community and represented a link between local resources and technologies and new digital technologies. But on the other hand, we noticed by the mere fact of taking a cisgender man to be among the facilitators changed the dynamics with some of the older men in the workshops, who began almost immediately to regard him as their main interlocutor for the entire project during that workshop - even though his contribution was specific to the bamboo tower. This particular episode reinforced between us the importance of having more women in places of facilitation, including technical, and it also flagged for us the importance of reflections around masculinities in spaces of facilitation.

Finally, although our research focus has had at the core of gender and race relations an intersectional approach, it seems important to register that there is a generational aspect that also stood out which can be addressed in more depth in future projects. In the process of this network, we noticed that some of the most assiduous and interested participants were young people between 18 and 25 years of age. People who have already left the community to work outside, but who returned intermittently to the community (due to the need to work and earn money for their families). So even though they do not plan to live in the community, they are really invested in the network working, so that they can talk to their families and make their lives more comfortable. Almost no women of the same age group lived in the community and the adolescents did not have much interest in the workshops. The women who were most involved with the project were under 15 years of age or elders.

It is also important to consider that we have generally had to deal with a high turnaround of people participating in each workshop. And although from the very start we had the issue of having to go back to the beginning and repeat activities in consideration to new members, this actually turned out to be positive, because by repetition, those who had already participated spent time helping newcomers and sharing their growing knowledge. In general, the involvement of as many people as possible - even at different levels of attendance and depth in participation - seemed important towards creating a sense of collective appropriation of the network by the people of the territory - something that may become important to their continuity and resilience beyond this project.

RACE AND RACISM

Another important aspect of our process in considering the intersectional lens also points us to the need of not to erase the differences between women. Here it seems crucial for us to highlight that working with women in community networks must not become a shortcut to ignoring the differences between women, especially with regards to race, ethnicity, class, and skills.

Once we arrived in the territory, the only black woman in our group questioned how we felt about being a group composed mostly of white women, who travelled from the city to the quilombo and approached a territory that is mostly a black population. From this questioning, our group rethought how the issue of race should be addressed in our project - recognizing the need for it to be thought of in more depth and by different layers. In this sense, we considered two levels of reflection: on one hand, Daiane dos Santos Araújo built a reflection on race relations from the condition of the only black woman in our initial group as in many spaces of free technologies in Brazil. On the other hand, white women of our group also needed to recognize themselves as racialized and to act in the face of the privileges on which their race is structured – and here the discussions of whiteness emerged as fundamental. At this point, we separate the '*we'* voice adopted so far in the article to bring these reflections from these two different places.

In her reflection on race[38] Daiane points out that, generally, the places that receive proposals for community networks are racialized territories, such as quilombos, indigenous communities and urban peripheries. The construction of community networks is tied to the technological formation that already exists there. But the presence in the production of digital technologies today is mostly white and male. And not only the presence but the whole thought process of digital technologies and techniques are represented from a Eurocentric and North-American perspective. However, discussions about race are not yet seen as central to most projects on community networks -- and this silence on such a latent issue in this field may represent an echo of structural racism in Brazil. This scenario was indicated by Daiane as one of the key factors that made her rethink her involvement in the field of community networks even before we started this action-research project.

Furthermore, she indicates that being in the quilombo – symbolically and precisely a territory associated with the history of black resistance in Brazil -- made her reflect and want to remain in the community networks spaces, seeing in them opportunities to build social justice, considering that through inconclusive and disputed processes,

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[38]This reflection was materialized through a consultancy on racial issues provided by Daiane dos Santos Araújo for this project.

there is the possibility of intervention and the practical exercise of freedom. According to Daiane dos Santos Araújo, the willingness to act in the construction of an egalitarian society presupposes putting ourselves in constant review, making it possible to interfere, decide, compare and break through. And that indicates the need to transform our human and digital connections in a way that is in fact welcoming to non-white people.

If we think that, like Daiane, many black people can feel silenced and distanced from spaces of interaction with digital infrastructures and technologies, how collective the installation and management of autonomous and community networks actually can be? And why aren't white people, who are the majority in this field in Brazil, thinking about racism from their own position?

It was then that we mobilized the concept of whiteness[39] as a fundamental pillar of our process, being a mostly white group. The notion of whiteness helped us to understand this position where the subjects who occupy it are systematically privileged with regard to access to material and symbolic resources and as part of a process initiated through colonialism and imperialism, which remain sustained and preserved nowadays. We believe that reflections on whiteness can and should be mobilized to challenge a general perception among white people that the only ones belonging to a race are non-whites. This concept pointed us to the need for white people – further to raise awareness of their race – to promote changes in their micro positions of power and activity. And also act in the general framework, to engage with the structural change of cultural values so that whiteness, as a normative place of power, could become ethnic-racial identities where racism is not a prop that supports them.

We then ask ourselves what this might mean for the people involved in building and strengthening community networks? In Brazil, most projects that address connectivity through a search for autonomy are mainly driven by white men, although they are implemented and occur in territories composed mostly of black and indigenous people. And it seems to us that just as we had not been incorporating the notion of whiteness as a fundamental discussion, other groups may not be doing so either. This made us understand that practising intersectionality is to look at what is around the local experiences and not be a reproducer of structural silences of society, and even though this is not a linear process – but full of twists and turns, getting it right and failing. Therefore, from our experience, whiteness becomes a necessary and important concept to shake up those engaged with building a community network.

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[39] SCHUCMAN, Lia Vainer. Yes, we are racists: a psychosocial study of whiteness in in são paulo. *Psicol. Soc.* [online]. 2014, vol.26, n.1, pp.83-94. ISSN 1807-0310. http://dx.doi.org/10.1590/S0102-71822014000100010.

THE CONSTANCY OF THE UNFORESEEN

At the beginning of this project, we were aware that we would need to remain open to developments that we would only know once we were working together with the community. But we could not imagine that dealing with the unforeseen would have been such a challenge and that our methodologies would be completely rethought in the face of the global COVID-19 pandemic, aggravated in Brazil by the erratic actions of a far-right government.

If, on one hand, the pandemic prevented us from continuing the immersive and collective processes in the territory, on the other hand, it stressed the need to connect the *quilombo Terra Seca* community network to the internet, at a time when essential activities, such as school and access to emergency financial assistance, moved to an online environment as a consequence of distancing measures and social isolation. The health emergency scenario made it more difficult to plan because we did not know whether health conditions would allow our plans to be implemented. We also experienced an emotional impact of the situation faced, on top of a context of uncertainty and unknowns that paralyzed the project activities for some months.

In the end, we made some adjustments to be able to proceed. Changing the collective dynamic to occasional trips to the quilombo, in reduced teams and with a sanitary protocol, with the aim of finishing the installation of the network and ensuring their internet connection. We did semi-structured interviews to evaluate the process. And thinking about other ways to share outcomes of the action-research with the community, such as the production of three zines (a small technical tutorial recapping the process, an online safety guide and one on gender and race reflections gathered in this article); and a video to bring the community members reflections about the process on their own words[40]. We are seeking through local communication and virtual spaces new ways to promote meetings and knowledge exchanges, further impacted by a growing tension of the pandemic worsening in our country. This period has made us incorporate new questions into our reflections: how to think of networks that are territorialized and that flourish from the encounter between different people, such as in the experience of this project, in times where being together can be a health risk? How will the pandemic impact the future of community networks? We are being re-shaped by a new imposed context and responding by different ways of dealing with specific contexts and many answers can arise.

As people living in big urban centres, our presence in the quilombo could represent a risk for the community members, who already lived in less densely populated areas

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[40]The video is still pending and should be finalized as soon as it is possible to return to the territory.

and also - fortunately - had priority access to the vaccine in our state. Our bodies and movements should be observed and regulated considering the emerging health issues and their social impacts. The pandemic, thus, brought practical implications for the project. We have to redesign the project activities, which impact its timeline and budget. The flexibility and support from the FIRN network were fundamental here, once it allowed us to navigate in challenging times. Here we bring a reflection that will not be further explored in this article but bring a reminder of an important aspect of community networks articulations: the flexibility to face the unforeseen and answer to local developments is also vital from the granting and funding perspective.

In the evaluation interviews we made at the end of the project, we asked about the best and the worst aspects of this process. And the answer we got was that the worst thing was the pandemic, which blocked all the spaces we had to discuss and talk more deeply about it.

On the other hand, we also faced rewarding unforeseen points at this challenging moment: almost immediately after we had connected the mesh network with an internet link, we received so much positive feedback from the community and could reestablish more robust communications with them. Women from their 40's that were used to going to the highway surrounds to fish 3G or 4G signals to be able to do their economical activities related to agriculture (such as receiving the orders and the specifics of the delivery process), could now do that in the comfort of their couches and did send audios expressing happiness about it. In addition, internet connectivity has enabled agricultural women to participate in online political events and webinars regarding the protection of their way of living and the nature that surrounds them, which was not a previous reality. It was also this connection that allowed us to hear from them in online events, showing that connecting around 15 families could have an impact on the right to know of a greater number of people. These nodes support the ability to insist on existing and share achievements and joys even when we are struggling in so many layers.

As one of the women from the community we interviewed said at her final evaluation of the process, with the community network she felt that they "have the right to speak as well because until that moment we were only listeners. And with the inclusion in digital media, which are being built, we hope to have more opportunities to put our needs and demands beyond the community".

Another good feedback we have received is regarding the knowledge and appropriation those women had of the community network, knowing where the antennas are installed, where their signal reaches and to do simple troubleshooting and point where maintenance is needed. They are also the ones responsible for sharing the password of the network with the families and preventing outlanders from

going there just to use their internet. Because of that role, the community, including the men, tend to see and value these women as the responsible for bringing connectivity to their territory and keeping the decision-making around it.

SOME FINAL CONSIDERATIONS TO NOT CONCLUDE

In order to share some final considerations from the field of feminist infrastructure, we would like to go back to a question that moved us from the beginning: if 'feminist' does not mean made by women, what does it mean?

For us, on one hand, it means working through listening skills and keeping ourselves open to what only the localized experience and the specific encounters can offer. The intersectional lens and references of popular education have also helped us to look at tensions and conflicts not as something that needs to be stabilized, but as an opportunity to open important dialogues - between ourselves and with the community members. And on the other hand, it has meant seeking to build physical and digital environments that consider multiple interests and needs from an intersectional perspective that, when collectively constructed by different groups and bodies, is in fact capable of bringing together different groups and bodies in a welcoming way.[41]

In countries marked by inequality, such as Brazil, it is very common that in communities where the internet and other forms of connectivity are absent, there is a lack of women's rights, which can be further aggravated by the combination of inequalities, such as class, race, age, among others. This leads us to the need to address the intersectionalities of access, because, otherwise, connectivity can as a result become a tool that mainly benefits white cisgender men and/or reinforces patriarchal and colonialist values and inequalities. That is if community networks carry with them the potential to recognize, value and strengthen other ways of living, learning and other models of development -- it seems fitting that discussions in this field add to the accumulation of other fields that long before the internet already focused on ways of breaking with imperialism and colonial legacies. And in our process, intersectional feminism, popular education, and race discussions, including whiteness, have been key.

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[41]After all, the fact that these communities strive for better living conditions cannot mean an expectation of purity in relation to them or of romanticizing expectations. And as feminist researchers and activists, we need to maintain a "critical and reflexive to our own as well as others' practices of dominations and the unequal parts of privilege and oppression that make up all positions" (Donna Haraway, 1995).

Finally, the pandemic brought new implications for community networks and for our experience. It highlighted that reducing connectivity inequality with an intersectional perspective and promoting autonomous access is even more urgent now, despite the emerging challenges. Furthermore, the field of feminist infrastructures helped us keep in mind that technologies are not neutral, but are also not limited to the uses and interests of those in power – there will always be escapes, hacks and multiple ways of living and doing things. We are therefore invited to act in a field marked by disputes where the encounters, the dialogues and the multiplicity of voices will be decisive to challenge norms and seek for collective strategies to overcome historical and new barriers.

Find out more about this project at bit.ly/feminist_infrastructure_cn