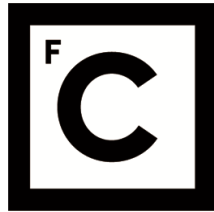


UNIVERSIDADE DE LISBOA
FACULDADE DE CIÊNCIAS



**Ciências
ULisboa**

Social Participation in Scientific Research from the Margins

Case Study of 2.º Torrão, Almada

“ Documento Definitivo ”

Ramo de Filosofia da Ciência

Doutoramento em Filosofia da Ciência, Tecnologia, Arte e Sociedade

Especialidade de Ciência e Sociedade

João André Ribeiro Duarte

Tese orientada por:

Catarina Pombo Nabais

Documento especialmente elaborado para a obtenção do grau de doutor

ANO 2024

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PROLOGUE

As I came to Lisbon to study philosophy, I grounded myself in a precarious settlement in the outskirts of the city. Going across the river, I had to cross boundaries. 2.º Torrão is a beautiful place, for its natural environment among the trees and the sea and mostly for its people, with a deep awareness of their natural and social surrounding and the many struggles to overcome. Academia wasn't the kindest of places in that very human sense of the word, where struggles weren't shared as easily, but, still, a place to flourish to which I have the deepest gratitude to be a part of.

My position as a researcher isn't unique, in the sense that many others before me had to occupy similar places. Why was I grounded in that specific precarious settlement and not somewhere else? The answer wasn't always obvious to me.

My grandmother Alina was born in Leopoldville, at the time the Belgian colony of Congo. When she was just four years old, her father placed her by herself inside a ship. My great-grandfather was Portuguese, white. His daughter was white, but with negroid features, with beautiful curly hair and facial physiognomy similar to a black person. She was hosted in Portugal, in a farm in 'Salazarville', the name I jokily give to Santa Comba Dão, a rural town where the dictator Salazar was often seated and projected his national vision of the Portuguese Empire. My grandmother lived her whole life in that farm, a place where I was a happy child, playing with other kids. Her deep pain of being taken away from her family, though, wasn't ever forgotten. We ended up parting ways over a misunderstanding, for the entrance into her house being forbidden to a friend of mine for being black. I wasn't angry over that color line being drawn, just disappointed. To the day of her death, we didn't have the chance to make amends but is with much love that her presence resides to my side.

As an engaged researcher, I had to activate all my knowledge and skills into the everyday life of my community. With the covid-19 pandemic, I wasn't able to gain distance and focus into my academic responsibilities. Quite the opposite, I had to reinforce my presence in 2.º Torrão, as the challenges to the community mounted. I have coordinated several community-based projects and gathered several people with me. To face the lack of food, the lack of medical services, the lack of space for the youngsters to express their art and the menaces of dispossession. My skills, under the sign of equality, were mostly about passing a microphone. To be there to listen, to coordinate meeting points, to organize by the written word proposals and reach out to sponsors.

From 2022, the community of 2.º Torrão was faced by another more serious menace. The city announced its destruction. From the house I used to live, I was able to salvage all my books and notebooks and relocate. The place where I have lived, where collectively we have built our strengths in the neighborhood was destroyed. More than sixty families were

relocated with a hasty emergency plan. Fortunately, a group was able to resist, fighting for the right to a house where to go. After eight months, they were finally recognized as inhabitants and granted a new house where to live. With them I found another meaning for resistance. Thank you.

I feel grateful to the ones in my place of care: The community of 2.º Torrão taught me that friendship comes with an open heart. So, not just with words, I have a world- filling gratitude for the place of community I found with you. With the same levity of love, I thank you Daniel Christopher Green and Isabel Ribeiro. A special word to my ancestor, my grandmother Alina Duarte. You are so present in what attaches me today to this work.

For their support and guidance, I thank specially Catarina Pombo Nabais, without whom this work wouldn't have been possible. For their attentive reading and critical feedback, I also thank Patrícia Lara and Carole Garton. At the on-set of all of my dedicated perception of starting a doctoral program, I have the warmest regards to Baudouin Jurdant, David Abram and specially to Joëlle Le Marec. I thank my academic peers that shared their insights during the time in Lisbon (at the Science-Art-Philosophy Lab of the Center for the Philosophy of Sciences of the University of Lisbon) at multiple sessions, with a special mention to Catarina, obviously, and to Adalberto Fernandes and Liz Vahia and also my doctoral studies' colleagues Naïd Mubalegh, Ana Paula Suarez, Vinícius Jonas, Andrea Mazzola, Ana Pato, Miguel Montenegro, Diogo Cunha, among others. I thank my reception in Paris, with the greatest care and critical and enriching moments both with the GRIPIC –CELSA at Sorbonne University and with the French National Natural History Museum. I specially thank for those moments in Paris to Joëlle, Igor Babou, Romain Vindevoghel, Laura Verquere, Pauline Brouard, Antoine Lalande, Sarah Kitar, Joachim Fischer, Coline Reille and Ayòbámi Akínrúlí. As collective places of life and research committed to contra-colonial thinking, I thank the OLO research group – the Ocean's Literacy Observatory – guided by the love of Mônica Mesquita, as to the Portuguese National Museum of Natural History and Science, driven by the fantastic energy of Marta Lourenço and the CAA – the Almada's Archeology Center – guided by the dedication to the local history and its communities by Francisco Silva. I am also very grateful to my neighbors from the beautiful community of Pé na Joya and its inspiring leaders: Rosana, Still, Bonifácio, José Lopes, Dionisio, Anilda and Neidy. And, of course, I have to thank the place and the people that nurture me, where I get my soulful food, the Quinta Maravilha in Palmela. Paula, Henrique, Ana and Maggie, thank you so much for your dedicated farming (you grow love, not just food) and to my wonderful group of co-producers. It's in these places that I could give breathing and substance to my thoughts outside 2.º Torrão, I am very grateful for your existence! At the onset of the covid-19 pandemic, I am grateful to Penny Koutrolidou for her availability to introduce me to development studies and to Zoe Alexandra Holman and the Assemblies of resistance from Athens to ground me in the intense political field of this city.

Thank you to everyone that, with their feet on 2.º Torrão, side by side, contributed to discussions for my comprehension of the territory of Trafaria and the critical dialogue that took me deeper to write this thesis (by alphabetical order): A Carteirista, Adriano Kunzingami Dog, Agapi Dimitriadou, Agostinho, Alfredo e Silvina Fernandes, Alice F. Howland, Ana Almeida Neves, Ana Carinho em Pessoa, Ana Rita Alves, André Pereira, António Pedro Does,

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With gratitude I dedicate this work to the loving memory of Piedade Almeida and Mário Ferreira.

ABSTRACT

What does it mean to situate scientific research at the social margins? From the standpoint of 2.º Torrão, the last precarious settlement in the urban area of Lisbon by the shore of the Tagus' Estuary, our inquiry is done together with scientists to question the meaning of situated social participation in scientific research. Through field philosophy, we have grounded the philosophical research at the margins, crossing feminist epistemology and political philosophy. Foucault's considerations on space and power are fundamental to understand the challenges that positioning science on the margins entails. As scientists find in the neighbourhood informants or participants, their disciplinary power plays a role and scientists have to position themselves towards the sovereign of the city and their tactics of control and discipline. Scientists that arrive through an ethical allure are aware of the tactics of the power-holders. Scientists that come through an aesthetic allure are caught by the organic forms and surrounding nature. Architects are cherished by delivering interventions in the public and private space and position themselves as cartographers of possible worlds or experiment upon routes of emancipation. We find that positioning science is a collective political issue, distinguishing between disagreement-driven communities and their uncertain routes and consensus-driven communities that want to organize common goals. Towards a cosmopolitical agreement between world-views, we define epistemic roles, attentive to the subjugated knowledges. And as science wants to be at the margins to face wicked political issues, we find paradoxes in its idealized position. As we follow a co-created citizen science project in the neighbourhood, we find how the produced knowledge is taken by the sovereign power as a counter-expertise. By its turn, the city uses science as part of its commandment through its mechanisms of control, stripping the marginals from their rights, subjectivities and political agency.

Keywords:

Social Participation; Situated Science; Citizen Science; 2.º Torrão; Field Philosophy

SUMÁRIO

O que significa situar a investigação científica nas margens sociais? Do ponto de vista do 2.º Torrão, o último bairro precário da zona urbana de Lisboa junto à margem do Estuário do Tejo, em Almada, questionamos conjuntamente com cientistas o significado de uma participação social na investigação científica situada. Usamos nesta investigação uma abordagem de filosofia de campo, ancorando a investigação em filosofia neste território de uma forma empírica, pelo uso de etnografia de campo e entrevistas. Desta forma, desenvolvemos um posicionamento intersubjectivo único para com esta comunidade, reflexivo das vivências e visões de mundo dos habitantes deste lugar. Nas margens da sociedade, como periferia à capital Portuguesa, o 2.º Torrão tem 80 anos de história que se define em histórias de refúgio e procura de abrigo. Os seus primeiros moradores foram pescadores e bairristas de bairros históricos de Lisboa. Os últimos foram se estabelecendo neste lugar durante o Verão para aproveitar a época balnear, como fazia o resto da população da zona urbana de Lisboa. A partir das primeiras tendas, moradores começaram a contruir casas precárias para ficar neste lugar durante todo o ano. Depois de 1974, estas estruturas seriam mais consolidadas e a comunidade do bairro receberia Africanos e Afrodescendentes dos países lusófonos ao longo do fim do século vinte. Contemporaneamente, vivem no 2.º Torrão entre 2'000 a 3'000 pessoas.

A partir do posicionamento no bairro do 2.º Torrão e, pela metodologia de 'filosofia de campo' posta em prática, abordamos cientistas que, durante um período de dez anos, usaram a comunidade do 2.º Torrão como informantes ou participantes nas suas investigações. Nesta dissertação, vemos com mais detalhe como alguns arquitectos usaram referências da sua disciplina, como etnografia ou democracia directa, para criar abordagens experimentais. Também, vimos como cientistas que usaram um regime de co-criação de ciência cidadã com um grande impacto na vida da comunidade. As considerações de Foucault sobre espaço e poder são fundamentais para entender os desafios que o posicionamento da ciência nas margens acarreta. Quando os cientistas encontram informantes ou participantes no bairro, o seu poder disciplinar desempenha um papel, na medida que existe essa tendência de considerar o conhecimento de base local como conhecimento subjugado. Uma questão de poder se impõe.

A presença do poder soberano da cidade e suas táticas de controle e disciplina faz-se sentir nos bairros precários, como o 2.º Torrão e materializa-se na política do medo, identificando estes lugares 'proibidos de entrar', como associados à criminalidade e, especificamente no 2.º Torrão, como estando em maior risco devido ao galgamento costeiro. A elite política no poder em Almada desenhou ainda em 2022 um mecanismo de segurança brutal numa porção deste bairro com uma disciplina estrita sobre os corpos dos moradores, visando a deslocação forçada de mais de 60 famílias e destruição imediata das suas casas. A

ciência que motivou esta intervenção foi escondida, os técnicos que desenharam estas medidas drásticas estiveram alheios do dia-a-dia da comunidade até à sua imposição. A razão da emergência, só comunicada verbalmente, prendia-se com o risco de colapso de uma vala subterrânea que atravessa o bairro para a drenagem de águas pluviais. Como se descobriu mais tarde, esta vala não foi alvo de nenhuma análise de material ou de resistência e, para além disso, a subida do nível médio do mar por alterações climáticas para 2050-2100 motivou também esta intervenção, revelando a desproporcionalidade entre a razão evocada e o mecanismo securitário imposto. As comunicações da presidente de câmara e seu vereador revelam ainda a representação de moradores que resistiram como desprovidos de agência política e como iletrados, o que contrasta com a realidade. Encontramos ainda, nos espaços desenhados da destruição do bairro pessoas nuas, como sombra de si próprias, esvaziadas da sua subjectividade. O comando colonial, como descrito por Achille Mbembe, foi imposto nas colónias como uma negação suprema de direitos. De uma forma equivalente, o comando da cidade de Almada não elaborou sobre a ciência ou os direitos das pessoas afectadas pela emergência de segurança. Adicionalmente, existe o papel do imaginário da elite política quando elabora sobre a identidade e agência dos moradores. Encontramos neste contexto, uma afinidade à proposta de Joseph Tonda do soberano moderno, que é definida como uma relação social imposta pela elite política aos cidadãos no Gabão pós-colonial. A relação do soberano moderno mistura realidade com imaginação, inspirada no imaginário e tradições da África Central. No nosso estudo de caso, a cidade impôs um comando sobre o 2.º Torrão e também identidades imaginadas sobre os habitantes do lugar. Consequentemente, uma tese que é proposta nesta dissertação é que a relação social do soberano moderno considera a ciência unicamente como parte de um comando, reproduzindo a perspectiva colonial sobre os subjugados, desprovidos de direitos, subjectividade e agência política. É pelo reconhecimento desta dura realidade que as ciências se situam neste bairro precário.

Ao chegar ao bairro do 2.º Torrão, há cientistas que chegam atraídos por um sentido de justiça, eticamente posicionados como contra o poder do soberano, cientes das táticas dos detentores do poder. Ou, por outro lado, há investigadores que chegam por uma atracção estética, pelas formas orgânicas dos edifícios e ruas, pela informalidade e natureza circundante. Esta atracção estética funciona para alguns cientistas como uma ruptura do dia-a-dia urbano, como uma erupção de vida. Ao considerar como é que cientistas e habitantes do lugar interagem, a comunidade como forma política impõe-se. Neste sentido, fizemos uma distinção importante entre comunidades baseadas em consenso e, outras, baseadas em dissenso. Comunidades que funcionam por consenso, como é o caso da média comunitária, são lugares de solidariedade e cooperação, com um compromisso para com objectivos comuns. A média comunitária ambiciona se tornar uma instituição, um corpo formal formado a partir de uma territorialidade das margens sociais, pela partilha de ferramentas de média para lutar contra o poder soberano e reconhecer uma subjectividade própria. Em contraste, como Jacques Rancière o propõe, o conceito de igualdade apenas pode formar comunidades incertas, na medida em que é da natureza da comunidade que se reúne questionar os papéis que são tomados, ou até a noção de território. O dissenso sempre estará no âmago de uma verdadeira comunidade. A formalização de uma comunidade enquanto contra-poder pode

significar a sua captura por uma ordem hegemónica de lugares e funções fixos que é contra o horizonte aberto de possibilidade que podemos descobrir em conjunto.

Seguindo um projecto de ciência cidadã em ciências marinhas co-criado no bairro do 2.º Torrão durante oito anos, definimos nesta dissertação considerações sobre epistemologia, filosofia da ciência e filosofia política. Com uma visão diplomática entre as diferentes visões de mundo inspirada na proposta de cosmopolítica de Isabelle Stengers, definimos papéis epistémicos que diferenciam os cientistas, dos pescadores e investigadores-mediadores. Os cientistas precisam de adoptar um posicionamento ético- ecológico para entrar em diálogo com outras visões de mundo. Quer isto dizer que precisam de situar o seu conhecimento em relação ao ambiente circundante. A figura do pescador do Estuário do Tejo é particularmente desafiante, na medida em que o seu conhecimento profano tem dimensões míticas e ecológicas. O envolvimento que seguimos de um pescador na investigação científica mostrou como o seu conhecimento era implicado socialmente, o que foi particularmente desafiante para a visão de mundo organizada dos cientistas. Mais ainda, uma perspectiva situada do pescador Português revelou a sua grande precaridade e incerteza política, o que contribui à construção social da sua ignorância. Finalmente, como a ciência quer estar nas margens para enfrentar questões políticas terríveis, encontramos paradoxos também na sua posição idealizada. O paradoxo do investigador situado reflecte uma versão idealizada da natureza social, que também é considerada pela proposta de uma ciência bem organizada de Philip Kitcher. A realidade das margens sociais opõe-se a estas formas de idealismo. O desafio que esta dissertação reflecte é de relacionar a participação social a uma abordagem epistemológica e filosófica crítica a partir de uma perspectiva situada.

Palavras- chave:

Participação Social; Ciência Situada; Ciência Cidadã; 2.º Torrão;
Filosofia de Campo

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ANNEX 1

- PROTOCOL FOR SEMI-STRUCTURED INTERVIEWS (LOCALS AND SCIENTISTS)

ANNEX 2

- TIMELINE OF EVENTS OF NEW STAKEHOLDERS – SCIENCES

ANNEX 3

- DESTRUCTION PLAN

- REPORT SMPC46 – TECHNICAL REPORT FOR THE DESTRUCTION

INTRODUCTION

Facing the sciences compromised with the city and an idea of consensus towards development, philosophy is the best place to question that horizon. Philosophy supposes controversy, argument, debate among opposite, conflicting theses. Gilles Deleuze and Félix Guattari, with the maturity of a productive partnership, reflected upon the role of the opponents of the philosophical activity. Philosophy, dedicated to the creation of concepts, has rivalry at its core, it needs the sciences of the city and other rivals to be productive¹. Since the time of this reflection by Deleuze and Guattari, the challenges to our societies have intensified. An amount of wicked problems have risen, from epidemics, to climate change and wars. We're faced with common sense, speedy consensus and acceptance of fashionable ideas considered obvious precisely because they are not discussed. Built in convergence with other outcasts facing the world from the margins of society, **this research aims** at questioning problems concerning the nature and character of scientific research, claiming a role for a well-positioned philosophy.

Our starting hypothesis, therefore, is precisely the idea that only if one is positioned from the point of view of the margins may one see certain wicked problems. The problems faced by the sciences when they arrive at the margins in order to do research or to deliver scientific knowledge remain secluded from the public view. In this sense, this research puts forward a community-based approach taking place on the outskirts of Lisbon, Portugal, in a physical territory seen as marginal to the Portuguese capital. Inhabiting this place and partaking in its life, **our questions** are directed towards the role of the sciences and its scientists: How is the production of scientific knowledge situated? What is the place (if any) given to the ones from the margins in science? What problems, but also challenges and opportunities, are presented? The consideration of margins and community remain close to considerations of universals to philosophy, but a situated report obliges us to compose our considerations from the perspective

¹ In the Introduction to *Qu'est-ce la philosophie?* ('What is philosophy?'), Deleuze and Guattari elaborate on the meaning of philosophy as the creation of concepts (Deleuze Guattari 1991, pp. 7-18). Historically, the authors see the emergence of the social sciences, as sociology, and sciences that are allied to capitalism, as Marketing, challenging the place of philosophy and its creative independence (op. cit., pp. 15-16). In this genealogy of the creation of concepts, the authors place a putative origin in Ancient Greece (translation by Hugh Tomlinson and Graham Burchell): "If we really want to say that philosophy originates with the Greeks, it is because the city, unlike the empire or state, invents the agon as the rule of a society of "friends," of the community of free men as rivals (citizens). This is the invariable situation described by Plato: if each citizen lays claim to something, then we need to be able to judge the validity of claims" (Deleuze Guattari 1994, p. 9). In the original French quote: "*Si la philosophie a une origine grecque autant qu'on veut bien le dire, c'est parce que la cité, à la différence des empires ou des États, invente l'agôn comme règle d'une société des «amis», la communauté des hommes libres en tant que rivaux (citoyens) (...)*" (Deleuze Guattari 1991, pp. 14-15).

of the relations established and their intersubjectivity: What is the nature of the relations established between the sciences and the inhabitants of these peripheries?

The establishment of meaningful communication between scientific researchers and others isn't an easy task. Michel Foucault, in his lectures at the *Collège de France* in 1975-76, presented the progression of his research on the relations between power and knowledge. As he stated in his eighth class, a common reaction among academic researchers, if engaged in a dialogue with what they consider as 'lay people', would be to examine the person with whom he or she is speaking to:

"Who is speaking, are they qualified to speak, at what level is the statement situated, what set can it be fitted into, and how and to what extent does it conform to other forms and other typologies of knowledge?²"

(Foucault, 2003, p. 184)

As a researcher is engaged by another person, he or she questions the identity of this other who speaks and tries to classify from the speech that was heard where to conform the knowledge of the speaker to a certain place, as if any other object to be systematized. This passage was part of the lecture Foucault gave on the emergence of disciplinary power that replaced the older model of orthodoxy of statements. Pragmatically, disciplinary power is manifested through a shift in the attention from the content of the message being laid (eventually censored) to the person and their discourse (Foucault 1977, pp. 163-164). Power, as he defines it, becomes evident in any established relation, and the universities become part of this apparatus that exerts control of a selective power by selection of knowledges, their distribution and homogenization by forming communities (op. cit., p. 163).

Moreover, the historical emergence of disciplinary power is part of Foucault's genealogy of knowledges³. The consensual, peace-lead definition of knowledge is a heritage of the progress of the Enlightenment that Foucault's genealogy must outwit. For Foucault, beyond the apparent peace, there is an immense and multiple battle between knowledges in the plural – knowledges that are in conflict because of their very morphology, because they are in the possession of enemies, and because they have intrinsic power-effects. For instance, the

² Translated from the original French by David Mackey. Here the original quote: "Le problème sera de savoir qui a parlé, et s'il était qualifié pour parler, à quel niveau se situe set énoncé, dans quel ensemble on peut le replacer, en quoi et dans la mesure il est conforme à d'autres formes et à d'autres typologies de savoir" (Foucault 1977, p.164).

³ Foucault intended the term "genealogy" to evoke Nietzsche's genealogy of morals, particularly with its suggestion of complex, mundane, inglorious origins, that is, in no way part of any grand scheme of progressive history. The point of a genealogical analysis is to show that a given system of thought (itself uncovered in its essential structures by archaeology) was the result of contingent turns of history, not the outcome of rational, inevitable trends. The genealogy of knowledges is then located on a discourse-power/ discursive practice-clash of power axis, while the history of sciences is conventionally located on a cognition-truth axis (Foucault 1977 p. 159).

eighteenth century's appropriation of technical knowledges is usually described as a story of scientific and civilizational development. However, Foucault shows how some bigger industrialized knowledges were developed under global capitalism and were then able to annex, confiscate or take over particular, more local, and more artisanal knowledges (op. cit., pp. 159-160). Foucault's genealogies are then giving light to the existence of types of knowledges that are excluded from dominant discourse or "subjugated knowledges",

"When I say "subjugated knowledges" I mean two things. On the one hand, I am referring to historical contents that have been buried or masked in functional coherences or formal systematizations. (...). I am also referring to a whole series of knowledges that have been disqualified as nonconceptual knowledges, as insufficiently elaborated knowledges: naive knowledges, hierarchically inferior knowledges, knowledges that are below the required level of erudition or scientificity" ⁴.

(Foucault 2003, p. 7)

The concept of disciplinary power and the awareness of subjugated knowledges, as described by Foucault, decentered the notion of power from the control of a central State. This very same power dynamics - a disciplinary power that subjugates other knowledges as insufficient, lacking in formalization or below the necessary threshold of scientificity - continues to emerge in the relations set in our unequal world⁵. The education in our universities continues to permeate the same mindset of a dominant discourse, exerting their selective control in a similar way to what Foucault described. At the margins, this problem remains actual and is an essential perspective of any scientific research that positions itself at such places and the nature of the relations established between scientific experts and the ones at the margins.

The asymmetry of power embedded in the construction of knowledge continues to

⁴ Translated from the original French by David Mackey. Here the original quote: "Par «savoir assujetti», j'entends deux choses. D'une part, je veux désigner en somme des contenus historiques qui ont été ensevelis, masqués dans des cohérences fonctionnelles ou dans des systématisations formelles. (...)Deuxièmement, par «savoirs assujettis», je crois qu'il faut entendre autre chose et, en un sens, tout autre chose. Par «savoirs assuettis», j'entends également toute une série de savoirs qui se trouvaient disqualifiés comme savoirs non conceptuels, comme savoirs insuffisamment élaborés: savoirs naïfs, savoirs hiérarchiquement inférieurs, savoirs en dessous du niveau de la connaissance ou de la scientificité requises" (Foucault 1977, pp. 8-99).

⁵ As Foucault established in his first volume of *Histoire de la Sexualité* ('The History of Sexuality'), which was published in synchronicity with his lectures at the Collège de France, he further elaborated on the relations of power. These shouldn't be confused by an outside perspective, as if they were an independent structure. If they come into play, they are an integral part of the relationship established: "Relations of power are not in a position of exteriority with respect to other types of relationships (economic processes, knowledge relationships, sexual relations) (...) they have a directly productive role, wherever they come into play" (translated by Robert Hurley - Foucault 1978, p. 94). In the original quote in French: "Les relations de pouvoir ne sont pas en position d'extériorité à l'égard d'autres types de rapports (processus économiques, rapports de connaissance, relations sexuelles) (...) elles ont, là où elles jouent, un rôle directement producteur" (Foucault 1976, pp. 123-124).

this day to influence research agendas in Post-Colonial and Development Studies⁶. For the social scientists in different kinds of initiatives of the industry of development, the dimension of power is an important part of the nature of the relations established with peasants and peoples from the Global South⁷. Most of these studies place emphasis to how unequal power relations are ingrained in practices as well as they stress the need for research to be more socially and anthropologically aware of those power relationships. In other words, social scientists are aware that a certain development program must be designed by taking the poor as participants. If the developers want to be informed on how that particular society works, how its culture is manifested in practices and roles, and how relevant knowledges are present there, they should not re-enact once again the subjugation of inferior knowledges. Social participation, framed through these lenses, isn't just purely built upon reason but is infiltrated by a question of power.

This question of how power is placed in human relations about the construction of knowledge is, then, a question of epistemology. And it has been well-placed by the feminist movement. As Donna Haraway puts it in her seminal "Situated Knowledges",

"Subjugated standpoints are preferred because they seem to promise more adequate, sustained, objective, transforming accounts of the world"

(Haraway 1988, p. 584)

What is at play is a definition of objectivity that differs from the normative sense usually given in classical epistemology. The feminist standpoint is one that isn't built on the empirical perspectives historically followed by the history of physical and natural sciences. The standpoint advanced by Haraway, Sandra Harding, and others is built up from a Marxist perspective. Namely György Lukács developed the "standpoint of the proletariat", which spawned into different Marxist research agendas⁸. Afterward, in the 1970s, feminist academics

⁶ Contemporary authors, as Andrea Cornwall, John Gaventa, Frances Cleaver, Tim Holmes and Ian Scoones deal with the topic of social participation within the frame of Development and Post-Colonial studies. Most of this research takes place in the Global South. The notion of disciplinary power and the recognition of subjugated knowledges takes a central role in many reflections (Cornwall Gaventa 2000, Holmes Scoones 2000).

⁷ Post-Colonial and Development Studies elaborate on situated perspectives of power relations, often from categories of Global North and Global South. The geopolitical asymmetry of power is seen as part of a post-colonial perspective that has its effects on the development industry, which asserts its presence in the Global South. As an example, 1988's influential essay by Gayatri Spivak titled 'Can the subaltern speak?' starts by recognizing the reflection of Foucault on disciplinary power to examine power relations set in post-colonial India (Spivak 1988).

⁸ With Marxism, the nature of material relations becomes visible through the proletariat. To recognize a social standpoint for the construction of knowledge is to avoid the self-alienation that Marx, Engels and Lukács accuse of being at the heart of capitalism. This self-alienation is considered in the development of bourgeois thinking as unhistorical or anti-historical by its immediacy. Marx first developed this idea, but it was Lukács who developed the Marxist notion of standpoint: "The self-understanding of the proletariat is therefore simultaneously the objective for understanding of the nature of society. When the proletariat furthers its own class-aim it simultaneously achieves the conscious realization of the – objective – aims of society, aims which

took the importance of this perspective to build critical knowledge about the society and the common (also social) reality. The feminist epistemology of the standpoint theory claims for a “strong objectivity” (Harding, 1993). The Physics and Natural Sciences are commonly presented with views associated with a naive empiricism; however, this is also an existing current in the social sciences and the feminist epistemologies. By contrast with empiricism, the feminist standpoint works towards a more objective science through the inclusion of social and political implications. For Harding, this leads to a more rigorous logic of discovery, not just attached to the formulation of problems and hypotheses and to the definition of concepts, but also including the political and moral definitions within the research process, its subjects and objects (op. cit., p. 56, 69). In other words, the political and moral dimensions cannot be hidden within a context of justification. On the contrary, they must be considered as a necessary methodological requirement. For a researcher who accepts such a positioning, the greatest danger is of romanticizing and/or appropriating the vision of the underprivileged, of claiming to see from their position while, in fact, they are critically depending on the establishment of a social relation, and not ever by a pure discovery of certain truths (Haraway, 1988, pp. 584, 593). So, we may say that, in line with Foucault and his huge impact in Post-Colonial and Development Studies, feminist epistemology has provided a solid basis for the research on what a situated approach to scientific research is the object.

For our part, as we consider the standpoint from the margins as the place from which certain problems are considered to be visible, feminist epistemology gives valuable tools of analysis. This research is, therefore, anchored in a physical territory and invested in contributing to philosophical research, recognizing the value of standpoint theory. Still, to be grounded in a distinctive place to study the relations between the sciences and certain others seen as participants to research, further **methodological clarifications** are needed. Certain methods, such as ethnography and the interview, usually relatable to the human and social sciences, have been claimed as part of ‘field philosophy’ (Vollaire 2017, Viveiros de Castro 2009). The *philosophical anthropology* developed by Eduardo Viveiros de Castro and others⁹ has given relevance to how an ethnographic-based approach can set the empirical grounds for an ontological and philosophical view. The relation of philosophy to the empirical reality is troubled but productive, as Christiane Vollaire shows (Vollaire 2017). ‘Field philosophy’ is relevant in the history of philosophy and can be especially fitting to relate to the political reality from the social margins (op. cit., pp. 29-50). It’s in this political sense that ‘field philosophy’ is placed methodologically in this research, recognizing the voices and the subjective character of the ones from the margins¹⁰.

would inevitably remain abstract possibilities and objective frontiers but for this conscious intervention” (translated by Rodney Livingstone in Geörgy Lukács, 1923, p. 149).

⁹ Eduardo Viveiros de Castro, Marilyn Strathern and Roy Wagner are collectively seen as the authors of reference to an ‘ontological turn’ in Anthropology. With other anthropologists as Martin Holbraad, Morten Pedersen and Casper Bruun Jensen they have come to substantiate the movement as a form of deep ontology ingrained in the ethnographic practice (Viveiros de Castro 2015, Holbraad Pedersen 2017).

¹⁰ Some other considerations about the emergence of ‘field philosophy’ coming from the anglophone world also support this approach (as in Brister Frodeman 2020, Plaisance Elliot 2021). These considerations will be placed with further depth in the first chapter of this thesis.

Recognizing the political dimension of the margins in its relation to the sciences urges considerations over the political nature of this exchange. Isabelle Stengers is a thinker who has an abundant philosophical production in respect to the values and practices of scientific research¹¹. The relevance of Stengers in this work is her clear alliance with scientists, stressing how these people are defined by their passions, by a common way of reporting to the *world*¹². Stengers in her latter works, came to position herself in the needed engagement between scientists and others, always keeping in mind a practice with its pragmatic implications. It's in this context that she developed the concept of cosmopolitics (Stengers, 2005¹³). Cosmopolitics is aimed at addressing the articulation of the different worlds, envisioned as “an operator of *mise en égalité*, provided that we strictly separate *mise en égalité* and *mise en equivalence*, once equivalence implies a common measure and thus an interchangeability of positions” (op. cit., p. 995). This action of putting in equality demands, according to Stengers, a certain suspension of beliefs so that in the political act these other world- views can be understood. Through it, other roles can take the space in this dialogue with experts of

¹¹ Isabelle Stengers was trained as a chemist herself and is an ally to the values and practices of scientific research. Her book *L'Invention des Sciences Modernes* ('The invention of modern sciences') dwells precisely on the challenges presented to science when seen just as any other practice through the lenses of social relativism (Stengers, 1993). The 'Science Wars' were a public dispute that took place in the 1990s that broadly sided natural scientists against human and social scientists and had a lasting impact in Stengers work (as herself stated in Stengers 2006, pp. 7-10). As the mathematics professor Alan Sokal started the 'Science Wars' representing Science against what was seen as an overly literary approach, far from the desired scientific objectivity, the philosophy of Gilles Deleuze was one of the aimed targets (Mermim 2008). *L'Invention des sciences modernes* was, at this time, a movement of Stengers to ascertain the invention of the autonomy of the sciences since the modern times, through their practices. Throughout her book, an interplay between scientific objectivity and faith is constitutive to scientific research, setting a distinctive difference to empirical approaches to the nature of science.

¹² In *L'Invention des sciences modernes* ('The invention of modern sciences') Stengers works upon the specificity of modern sciences, through their emergence as experimental sciences, as scientific researchers, defined by their passions, develop a specific form of reporting to the *world*. As Stengers herself states in the final words of this book (my translation): “The first invention of modern sciences, that of experimental sciences, required a style of passion that makes the scientific author a singular hybrid between the judge and the poet. The scientist-poet «creates» his object, he «manufactures» a reality which does not exist as such in the world, but rather is of the order of fiction. The scientist- judge must succeed in making admissible that the reality he has fabricated is likely to bear as a reliable witness, that his fabrication can claim the title of simple purification, elimination of parasites, practical implementation of the categories according to which it is necessary to question the object. The artifact must be recognized as not reducible to an artifact” (Stengers 1993, p. 188). According to the original quote in French: “*L'invention première des sciences modernes, celle des sciences expérimentales, a exigé un style de passion qui fait de l'auteur scientifique un hybride singulier, entre le juge et le poète. Le scientifique- poète «crée» son objet, il «fabrique» une réalité qui n'existe pas telle quelle dans le monde, mais qui est bien plutôt de l'ordre de la fiction. Le scientifique- juge doit réussir à faire admettre que la réalité qu'il a fabriquée est susceptible de porter un témoignage fiable, c'est-à-dire que sa fabrication peut prétendre au titre de simple purification, élimination des parasites, mise en scène pratique des catégories selon lesquelles il convient d'interroger l'objet. L'artefact doit être reconnu comme n'étant pas réductible à un artefact*” (Stengers 1993, p. 188).

¹³ Stengers worked extensively after *L'invention des sciences modernes* on her definition of cosmopolitics. In the years 1996 and 1997, she edited her *Cosmopolitiques* in seven volumes with the edition of the Parisian La Découverte. This work has been republished, the latest being in 2022, by the same publisher. The article that is cited here is, though, a relevant synthesis.

technoscience: the oppressed marginals with their diplomats, that are able to convey their voices, as their diplomacy made them valuable witnesses (op. cit., pp. 1002-03, Stengers 2013, p. 139), and the activists, that are framed by the author as a reiteration of the world- views of the witches, as gatherers for a cause for thinking (Stengers 2005, p. 1002).

Moreover, Stengers' cosmopolitics defines the putting into equality as a political event, depending upon the suspension of a reached consensus for a totalizing thought, in order to accommodate other agents and worlds to enter the fray. Stengers relates this collective moment to the conceptual character of the idiot, developed by Deleuze (Stengers, 2005, pp. 994-995). The idiot exists as someone who is close to arriving at the Cartesian *cogito*, but still is not arriving to crystallize it as a concept (Deleuze Guattari 1991, p. 64)¹⁴. For Stengers, the conceptual character of the idiot exists as a collective moment of hesitation that allows the needed slowing down essential for cosmopolitics to take place¹⁵.

The call of Stengers for a cosmopolitics has, then, with it a sense of diplomacy of world- views envisioning scientists, marginals and their diplomats and activists partaking in this event. For cosmopolitics to take place, it's needed the collective intervention of a moment of pause that allows the involvement of private perspectives, as the victims to the consequences of the technoscientific development intervene.

To further understand pragmatically the positioning of Stengers, it is important to frame how resistance in a troubling world and 'slow science' are formulated in her work. In fact, Stengers keeps inviting her readers to get further inside public disputes that involve science. Facing contemporary techno-scientific contentions such as pesticide poisonings and effects of climate change, Stengers invites us to resist. To resist capitalism means to resist reducing this dispute to a simple opposition between scientific knowledge and local-based knowledges¹⁶(Stengers, 2009, p. 34). In a latter work, Stengers articulated a political plea for scientists to situate themselves. And no contradiction needs to be found in that statement, in the sense that to "be situated" by the belonging to a certain scientific collective does not need to be in contradiction with "to situate oneself" (Stengers, 2013, p. 57). As she further elaborates,

¹⁴ Deleuze and Guattari locate the origin of the conceptual character of the idiot in the writings of the fifteenth century's Nicholas of Cusa, as "the profane, the private or the particular by opposition to the technician or the expert", that is latter reiterated by Descartes. Deleuze and Guattari also relate it to a similar opposition found by Chestov in Dostoyevski (Deleuze Guattari, 1991, p. 64).

¹⁵ As Stengers herself expressed, the intervention of the idiot in the cosmopolitical event is equivalent to "a "cry of fright" that allows others to take its place in the political process. As an ethological consideration, the idiot allows an inclusion that includes the victims of a certain thinking and decision-making process to be a part of politics" (Stengers 2005, pp. 1002-1003).

¹⁶ As it is stated by Stengers in the following passage (my translation): "That is, to pass on the need to resist the temptation of a brutal opposition between science and knowledge deemed «non-scientific», whose coupling will be necessary if we are to learn how to respond to what has already begun". (Stengers 2013, p. 34). in the original passage in French: "*C'est-à-dire faire passer la nécessité de résister à la tentation d'une opposition brutale entre les sciences et les savoirs réputés «non scientifiques », dont le couplage sera nécessaire si nous devons apprendre comment répondre à ce qui a déjà commencé*" (Stengers 2013, p. 34).

“[One needs to situate oneself] in order to become capable of connecting with other processes, located differently, in order to learn from each other to lift other anesthetics, to discover modes of struggle and cooperation giving meaning to the possibilities that seem to have deserted the world”¹⁷

(Stengers, 2013, p. 121)

The technoscientists, in alliance with the market-led research and the industry needs, have become deaf to the strange specificity of their own practices (Stengers 2013, p. 127). Against the mode of a ‘fast science’, developed in accordance with the market’s needs and the imposition of an evaluating system, Stengers pleads for slowing down, for the emergence of a ‘slow science’ (op. cit., pp. 51-82; Stengers 2011; Stengers Higgins Wallace 2023, p. 370). As quoted above, this plea for scientists to ‘situate themselves’ asks them to consider bonds of trust with others able to lift disciplinary anesthetics. The mode of fast science is set in motion by the imposition of industrialists or state-agents that arrive with their technical jargon and impose a dialogue on their terms. That is, the fast science regime, as described by Stengers, is an equivalent to a capture, a capture by a machine, in the sense given by Félix Guattari, that allows the coincidence between speculation and production¹⁸.

¹⁷ My translation. According to the original French : “[Il faut se situer] afin de devenir capables de se connecter avec d’autres processus, situés autrement, afin d’apprendre les uns des autres à lever d’autres anesthésies, à découvrir des modes de lutte et de coopération redonnant sens aux possibles qui semblaient avoir déserté le monde” (Stengers, 2013, p. 121).

¹⁸ Deleuze and Guattari developed the concept of ‘desiring machine’ in the *Anti-Oedipus* (Deleuze Guattari, 1972) and abandoned it, afterwards, over the concept of assemblage (*agencement*). Guattari further elaborated on the desiring machine, taking the concept a central role in his social critique. In an article from 1993, Félix Guattari elaborates on the meaning of it, here denominated as an “abstract machine” (my own translation): “This “machine” is open to the outside, to its mechanical environment and maintains all sorts of relationships with social components and individual subjectivities. It would therefore be a question of broadening this concept of *technological machine* to that of *machinic assemblages*; a category which encompasses everything that develops as machines in different registers and ontological supports. There, instead of having an opposition between *being* and machine, *being* and subject, this new conception of the machine implies that the *being* differentiates itself qualitatively and leads to an ontological plurality, which is the very extension of the creativity of machine vectors. Instead of having a *being*, as a common trait that would inhabit all machinic, social, human, cosmic beings, we have on the contrary, a machine that develops *universes of reference*, *heterogeneous ontological universes*, marked by historical turning points a factor of irreversibility and singularity”. (Guattari, 1993 in Guattari, 2018, p. 115). In the original French passage: “Cette “machine” est ouverte sur l’extérieur, sur son environnement machinique et entretient toutes sortes de rapports avec des composantes sociales et de subjectivités individuelles. Il s’agirait donc d’élargir ce concept de machine technologique à celui d’agencements machiniques, catégorie qui englobe tout ce qui se développe comme machines dans les différents registres et supports ontologiques. Là, au lieu d’avoir une opposition entre l’être et la machine, l’être et le sujet, cette nouvelle conception de la machine implique que l’être se différencie qualitativement et débouche sur une pluralité ontologique, qui est le prolongement même de la créativité des vecteurs machiniques. Au lieu d’avoir un être, comme trait commun qui habiterait l’ensemble des étants machiniques, sociaux, humains, cosmiques, nous avons, au contraire, une machine qui développe des univers de référence, des univers ontologiques hétérogènes, marqués par des tournants historiques, un facteur d’irréversibilité et de singularité” (Guattari, 1993 in Guattari, 2018, p. 115).

Following the reasoning of Guattari and Stengers, envisioning a future that is worthy of being lived is a question of including others, thus avoiding their ontological capture. A productive encounter can then be understood as where such ontological plurality is accepted, where those world-views come together¹⁹. In this way, Stengers' philosophical perspectives on social participation in decision-making processes deal with implications of the kind that Latour terms as a "risky construction" (Latour 1997). A notion of construction inherited from Deleuze, who opposes the relativism of social constructivists coming from a certain sociology of science. She is inspired by the writings of William James in her conception of a pluriverse as a sense of civility for the settlement of metaphysical disputes (Stengers, 2013, p. 128). It becomes clear in her political proposal the commensurability of that meeting of worlds. The *mise en égalité*, as previously described, is a gamble that still doesn't allow what she calls a *mise en equivalence*, once the latter would allow a common measure and a game of changing chairs that would be detrimental to the serious decision-making process that would take place.

Considering the social participation from the margins and the politics that are involved, Stengers' cosmopolitics has a role in understanding the nature of the positionings, exchanges and knowledges that are evoked.

Still, facing the nature of equality and politics in more depth, the work of Jacques Rancière has a place in this thesis. Jacques Rancière is a philosopher that has worked extensively on the notion of equality. Starting from his archival work of 18th-century workers, he has found a character, Jacotot, that led him to articulate the notion of an "equality of intelligences" in the book *Le Maître Ignorant* ('The Ignorant Schoolmaster' - Rancière, 1987). In that book, Rancière's careful philosophical inferences are intertwined with the report of events of the ignorant schoolmaster. The ground-floor to Jacotot's Universal Teaching developed among the workers is that 'all men have equal intelligence' and should enact it in an unequal society (op. cit., p. 221). The moment of intellectual equality is defined through intellectual emancipation as a liberating practice that depends fundamentally on the will of the individual and chance (op. cit., pp. 18-24). Equality takes on a broader meaning following Rancière, as the author develops work in a wide array of fields, from politics to aesthetics and education. He developed the notion of this 'equality of the minds', but also political and aesthetic dimensions to understand equality²⁰. As the present work tackles social participation, we shall enter with more

¹⁹ It's worthy to note that, for Stengers, ontology is signified through world-views. As she stated, "The problem with ontology is not knowledge or representation, but engagement with and for a world. A world worthy of dying for". (Stengers 2018, p. 85).

²⁰ Anders Fjeld while analyzing the body of work of Rancière divided his works according to three versions of equality: the intellectual, the political and the aesthetic (Fjeld 2018, pp. 39-40). As fitting as it is to consider these different moments, there's an interconnection when considering equality in Rancière's works. As an example, the book *Le Spectateur Émancipé* ('The Emancipated Spectator') was developed as an invitation following his book over the ignorant schoolmaster (Rancière 2008). In it, Rancière further elaborates on the pragmatic experience of learning (my translation): "Human animals are animals that communicate through the forest of signs. The distance that the ignorant must cross is not the chasm between his ignorance and the knowledge of the master. It is simply the way of what he already knows to what he still ignores" (op. cit., p. 16). In the original French quote: "*Les animaux humains sont des animaux qui communiquent à travers la forêt des signes. La distance que l'ignorant à franchir n'est pas le gouffre entre son ignorance et le savoir du maître. Elle*

detail into Rancière's considerations on equality and politics.

In *La Méésentente – Politique et philosophie* ('Disagreement – Politics and philosophy') Rancière defines the political by a rupture, an interruption of the ones without part, a disagreement that cannot be seen beforehand (Rancière 1995). The definition of politics that Rancière develops in this revealing book is far from the typical consensus- driven politics, of a rationality where the different parts are visible beforehand, and their agreement is attained²¹. Now, politics, according to Rancière, is the rationality of a disagreement that puts in question the proper meaning of the words in use and the situation they report to (op. cit., pp. 12-18). As Rancière stresses,

"For political philosophy to exist, the order of political idealities must be linked to some construction of city 'parts' to a count whose complexities may mask a fundamental miscount (...) the very *wrong* that is the stuff of politics"²².

(Rancière 1999, p. 6)

The careful examination of the nature of politics by Rancière reveals a fundamental *wrong*. The "parts" of the city that make politics rest on a miscalculation, that is a false count, a double count or a miscount of the parts that are integral to the political community²³. As Rancière traces the philosophical roots of politics to the Ancient Greece, he finds there the first fundamental miscount: The Athenian *demos* were recognized as people, as a part of the common affairs, despite having no other value than their autochthony (Rancière 1995, p. 26). The political practice depends therefore, for that *wrong* to be visible, on the appearance of someone who didn't take part and whose situation was until then unknown to the others. Equality interrupts the mechanisms of an unequal order that is shown not to be based on more

est simplement le chemin de ce qu'il sait déjà à ce qu'il ignore encore" (op. cit., p. 16).

²¹ Jürgen Habermas is here seen as the obvious contender for this position of a deliberative model of democracy. According to Habermas, this presupposition of a mutual comprehension between the parts involved in politics defines an "epistemic proceduralism" (Habermas Aubert Genel 2013). By this approach, the potential for rationality in political deliberation rests on two assumptions: the capacity to engage with rational results and the transparency of the different parts (ibidem). Rancière's definition of politics disputes this proposal, as, in one hand, politics rest on the sudden visibility of the ones- without- a- part and, on the other hand, the nature of disagreement disputes the relation itself between the names used and the situations that are referenced (Rancière 1995, pp. 12-18).

²² Quote translated by Julie Rose. In the original French, "Pour que la philosophie politique existe, il faut que l'ordre des idéautés politiques se lie à une composition des "parties" de la cité, à un compte dont les complexités cachent peut- être un mécompte fondamental (...) le tort constitutif de la politique elle-même" (Rancière 1995, pp. 24-25).

²³ As Rancière wrote, with translation by Julie Rose: "What the "classics" teach us first and foremost is that politics is not a matter of ties between individuals or of relationships between individuals and the community. Politics arises from a count of community "parts," which is always a false count, a double count, or a miscount" (Rancière 1998, p. 6). In the original French language: "*La politique n'est pas affaire de liens entre individus et la communauté, elle relève d'un compte des «parties» de la communauté lequel est toujours un faux compte, un double compte ou un mécompte*" (Rancière 1995, p. 25).

than arbitrariness. In other words, the “natural order of domination” is ruptured by the institution of a part for the ones without a part (op. cit., p. 30) and the inherent *wrong* of politics shows how all social order is based upon “pure contingency” ²⁴(op. cit., p. 35). As the political scene is considered with its different parts taking place, there are different assumptions about a possible agreement. The inherent wrong of politics forces that the ones-without-a-part have to give visibility to their case. Despite believing in their equality with the other parts of the city, they don’t have another solution than to show their disagreement. That defines the paradox of disagreement, as it’s built upon the assumption that the ones-without-a-part see themselves as equals to the other parts of the city²⁵.

Thus, Rancière’s notion of politics differs from Stengers’ cosmopolitical proposal, which was presented before. Stengers’ cosmopolitics is designed as a civilized practice, a diplomacy between different worlds (Stengers, 2013, p. 128). The places taken by experts aren’t questioned, as the interruption of the ‘lay citizens’, seen as victims of development, may be considered as the very needed pause to slow down the political process. The horizon of cosmopolitics is, then, the common understanding and resolution of these different world- views through a process guided by consensus. In very different terms, Rancierian’ politics is based on disagreement, as a “contradiction of two worlds accommodated in just one world”²⁶(Rancière 1995, p. 49). These different world- views are presented as an incommensurability, a “common dispute”²⁷ (op. cit., pp. 75-76). The simple argumentative rationality able to create a community through the discussion and composition of particular interests and positions will block the character of what would make that discussion political.

Therefore, Stengers’ horizon of a suspension of beliefs able to accommodate the speech and positioning of the ones-without-a-part, in view to reach consensus, could be considered equivalent to a “particular mode of visibility of right as an *arkhè* of the community”²⁸ (op. cit., p. 149). But, according to Rancière, such consensus- reaching practices establish a “stable organization of the relation between sense and sense, between that which is given and that which is thinkable, a kind of organization of what is possible” ²⁹(Rancière 2012, p. 168). The

²⁴ My translation.

²⁵ According to Rancière, as translated by Julie Rose: “A disagreement, a provisional confrontation, must be set up between two camps: those who think there is an understanding within understanding, that is, that all speaking beings are equal as speaking beings, and those who do not think so. The paradox is that those who think there is an understanding within understanding are for that very reason unable to take this deduction any further except in the form of conflict, of disagreement, since they are bound to show a result that is not at all apparent” (Rancière 1998, p. 6). In the original French: “*L’institution d’un discord, d’un affrontement de principe entre deux camps: il y a ceux qui pensent qu’il y a de l’entente dans l’entente, c’est-à-dire que tous les êtres parlants sont égaux en tant qu’êtres parlants. Et il y a ceux qui ne le pensent pas. Mais le paradoxe réside en ceci: ceux qui pensent qu’il y a de l’entente dans l’entente ne peuvent précisément faire valoir cette déduction que sous la forme du conflit, de la mésentente, puisqu’ils doivent faire voir une conséquence que rien ne laisse voir*”. (Rancière 1995, pp. 78-79).

²⁶ My translation.

²⁷ The “commun litigieux” in the original French language.

²⁸ My translation.

²⁹ My translation. In the original French: “[Le consensus] désigne une organisation stable du rapport entre sens et

order of the assigned places in consensus- driven practices respects the roles taken by experts through their universal knowledge, as well as by other occupations that partake in the city. This distribution of places follows a logic equivalent to an analysis of its *socius*. In *La Mésentente*, Rancière names 'police' as the effect of this distribution. The 'police' is there described as the process by which aggregation and consent of collectives are reached, powers are organized, and the distribution of places, functions and systems of legitimacy of such distribution takes place³⁰ (Rancière 1995, p. 51). The police is, moreover, characterized by an "absence of emptiness and of supplement" (Rancière, 2004, p. 241). On the contrary, according to Rancière, the space that politics opens isn't defined by the assigned places and roles that correspond to the policial order. The community that gathers as political is otherwise,

"The political community is a community of interruptions, fractures, irregular and local, through which egalitarian logic comes and divides the police community from itself. It is a community of worlds in community that are intervals of subjectification: intervals constructed between identities, between spaces and places. Political being-together is a being- between: between identities, between worlds³¹".

(Rancière, 1999, p. 137)

In other words, Rancière's notion of politics and the community that gathers is fundamental to understand the political intervention of the poor, the ones- without- a- part in an unequal reality. The intervention of people who weren't assigned a visibility in common affairs is what constitutes the Rancierian politics. Such interplay between identity, space and place that is presented in the political practice is a process of subjectivation that is proper to politics.

Relations between experts and other people are permeated with considerations about power. From the margins where this research is located, more acute is that awareness. Foucault presented the notions of disciplinary power and subjugated knowledges, that are the basis for situated perspectives in philosophical work. As the feminist epistemology of science of

sens, entre ce qui est donnée et ce qui est pensable, une espèce d'organisation du possible" (Rancière 2012, p. 168).

³⁰ As Rancière writes (translation by Julie Rose): "Politics is generally seen as the set of procedures whereby the aggregation and consent of collectivities is achieved, the organization of powers, the distribution of places and roles, and the systems for legitimizing this distribution. I propose to give this system of distribution and legitimization another name. I propose to call it the *police*". (Rancière 1999, p. 28). In the original French : "*On appelle généralement du nom de politique l'ensemble des processus par lesquels s'opèrent l'agrégation et le consentement des collectivités, l'organisation des pouvoirs, la distribution des places et fonctions et les systèmes de légitimation de cette distribution. Je propose de donner un autre nom à cette distribution et au système de ces légitimations. Je propose de l'appeler police*" (Rancière 1995, p. 51).

³¹ In the original French : "La communauté politique est une communauté d'interruptions, de fractures, ponctuelles et locales, par lesquelles la logique égalitaire vient séparer la communauté policière d'elle- même. Elle est une communauté de mondes de communauté qui sont des intervalles de subjectivation : intervalles construits entre des identités, entre des lieux et des places. L'être- ensemble politique est un être- entre : entre des identités, entre des mondes" (Rancière 1995, p. 186).

Haraway and Harding ascertains, it's the situated knowledges that can give a strong objectivity, as the moral and political dimensions are part of the context of discovery.

As the initial hypothesis of this work is that it is only by being positioned at the margins that certain wicked problems can be seen, Stengers' cosmopolitics offers valuable diplomatic possibilities for the meeting point between situated researchers and the ones living at the margins. In a very different tone, considering the nature of disagreement, Rancière's considerations on equality and politics are here considered as very valuable. His philosophy is aligned with a sense of democratization of experience, considered either in intellectual, political or aesthetic dimensions. The relationship between the sciences, the city and the margins also gains from being thought through the concepts of politics and police.

As stressed above, this research is done through a methodological approach in 'field philosophy', relating an empirical field with research in philosophy. This experimental approach is troublesome for the very nature of philosophy, something that we will deal with in the first chapter of this thesis as we define this methodology. More than using methods usually connected to the human and social sciences, and by those means to save voices as testimonies from the margins, this research aims to dive into that marginal standpoint. It's from the intersubjectivity which was raised in the neighborhood that this research wants to meet the scientists who arrive and, at the same time, to question the nature of social participation. This field approach impacts the nature of this research in the way that it uses sources, as testimonies, but also news articles and websites, that are identified to the concrete reality of the precarious settlement and the participative context of the engaged scientists.

As this research positions itself, the first objective is to understand: What is the concrete standpoint of this case study? What are the social margins, specifically from the standpoint of precarious settlements and the world-views of the neighborhood of 2.º Torrão? In the third chapter we get to tackle this objective and to have a first approach to the situated sciences that have arrived at this place in the past 10 years. As the philosopher Catarina Pombo Nabais considered, drawing from social participation practices in science and arts, a critical regard to the sharing of knowledges and practices is fundamental to approach the participative movement (Pombo Nabais 2021, p. 25). In a similar way, as one of our questions is exactly to know how are these sciences situated, an immediate objective is to know: What are these theoretical references? And how are these practices situated in their materiality? How do they impact the livelihood and how are they appropriated by the community? It was throughout this inquiry that we've found a critical contrast between the local world-views and the local power. Moreover, as we identify problems in social participation from the margins, we critically consider the role of mass media and the power-holders in designing politics of fear situated in peripheries and specifically in 2.º Torrão. And how are these contrasting world-views considered by the situated sciences? How are they placed in this regard? As we find in the end of the third chapter there are ethical allures that bind scientists to the reality of the ones that are subjugated, who are critically aware of their positioning towards the centralized power. But there are also others that are captured by the hygienist discourse of the power-holders and yet some

that arrive with an aesthetic allure, connected to the forms and shapes, to the surrounding nature and calm character of the precarious settlement. In addition, as the place taken by the scientists and their sciences in the precarious settlement becomes a political issue, we come to distinguish between communities driven by disagreement and communities driven by consensus, a difference that is used to reflect upon the roles that a scientist and their science might take in this context.

As 2.º Torrão is situated at the margins of the Tagus Estuary, it allowed a unique process of scientific research, made in a regime of co-creation, that we can find referenced in the fourth and fifth chapters. To understand how these mediators, scientists and locals were involved, this process is detailed in the fourth chapter, from its creation through its community engagement, to its formal scientific research. As this initiative involved different actors, we have defined epistemic roles, to the scientists, to the marginals and to researcher-mediators framed by the diplomatic tone of cosmopolitics. Our aim was to get further detail over the knowledge production and its appropriations, but also some new problems that might arise. It was, in this way, that we've identified the paradox of the situated researcher, that reflects many contemporary positions, not only in relation to the precarious settlement, but to researchers that are caught in- between social worlds. This problem belongs as well to a philosophy of science that wants to engage in giving order to science to face contemporary wicked problems.

As a harsh reality of the neighborhood facing destruction is imposed by the power-holders, we are set to define the character and place of their science in their mechanisms of control. It's in this sense that we perceive how the relationship of the modern sovereign imposes itself through commandment and its disciplinary norms. In the fifth chapter of this thesis, we reflect upon that role and how it contrasts in its nature of social participation to the situated knowledge made in co-creation, while a group of inhabitants of 2.º Torrão resists to be evicted.

CHAPTER TWO

DEFINING FIELD PHILOSOPHY

This research on situated science seeks to define a field in which an empirical approach was taken. The neighborhood of 2.º Torrão, in Almada, Portugal is a precarious settlement that anchors such an experimental approach by emerging with the place and its world- views and with the relations established with its situated scientific researchers. ‘Field philosophy’ is the name given to this research approach to philosophy. In this chapter we will first introduce this proposal and its fundamentals. We will then dwell on the role of ethnographic practice, placed within a debate over the ‘ontological turn’ in anthropology. Finally, I will elaborate more precisely over the methods of ‘field philosophy’ employed in the present work.

2.1 Field Philosophy, an introduction

To think about and put into practice a philosophy that is situated is to enter a problematic field that relates the discipline to an empirical *praxis*. In the past few years, the term ‘field philosophy’ has become a part of a transformative outlook both in academia and outside its boundaries, with a wide range of considerations as to how to define or describe it (Vollaire 2017, Brister Frodeman 2020, Plaisance Elliot 2021, Mitova 2020). Considering the impact of engaged practices in the North American philosophy of science, Evelyn Brister and Robert Frodeman coordinated the edition of a surprising book, that defines ‘field philosophy’ as a practice that becomes relevant for everyday life and that enacts a *conversation* with other relevant actors (Brister Frodeman 2020, pp. 1, 11). This book gives an outlook to a wide diverse range of practices where philosophers are engaged, from environmental activism to policy making and research laboratories, among others (Brister Frodeman 2020). Kathrin Plaisance and Kevin Elliott reframe such mapping with an analysis of those practices of engagement, trying to reach a more precise definition (Plaisance Elliot 2021). By the initiatives they had access to, they place ‘field philosophy’ as being able to engage with ‘non- disciplinary stakeholders’ and being more collaborative and interdisciplinary than the typical academic practice (Plaisance Elliot 2021, pp. 9, 12, 21). These considerations are in stark contrast with the one put forward by Veli Mitova, professor of philosophy in the University of Johannesburg (Mitova 2020). She defines the need for a positive program for “epistemic decolonisation”, as the “proactive utilization of the marginalized epistemic resources of the colonized in the

advancement of knowledge in various fields” (op. cit., p. 192). Mitova, from within a tradition of feminist philosophy, is thinking of a regional definition coming from a *Global South* that takes into consideration African thought and indigenous languages (ibidem). Even if she does not use the term of ‘field philosophy’, Mitova calls for those indigenous to have the right “to describe themselves in their own voice, rather than forever being an anthropological object” (op. cit., p. 193). Her passionate plea demonstrates the contemporary demand for other voices, of other peoples, to be borne in mind in philosophical research.

For a clearer understanding of the meaning of ‘field philosophy’, the French philosopher Christiane Vollaire’s book *Pour une Philosophie de Terrain* (‘For a Field Philosophy’), is an indispensable companion (Vollaire 2017). This short book serves as a comprehensive introduction to ‘field philosophy’, springing from the author’s own situated practice, which is framed within a tradition in philosophical thought. Her conception of philosophy is framed as a “specific thought experiment” and she defines the discipline as the finding of concepts. The need for a field is needed because philosophy “cannot be above the ground” (op. cit., p. 9).

First, Vollaire identifies an oxymoron rooted in the term ‘field philosophy’ (op. cit., p. 7). ‘Field philosophy’ presents in its terminology an opposition between «idealist» currents and the empirical field, equivalent to the opposition between philosophy and the human and social sciences (ibidem). However, she tries to prove that philosophy “never ceases to worry about its relationship to the empirical”³² (ibid.). She loosely identifies in Classical philosophy a root to this thesis, through her reading of the historian of philosophy François Châtelet (op. cit., p. 13). She identifies Plato as being deceived by the city, and it’s through “that deception and the theoretical project that such deception gave that is the origin of the durability of Platonism”³³ (Châtelet 1979 in Vollaire 2017, p. 13). This is only a mention. It is through Vollaire’s historical reading of modern and contemporary authors that we find the connection between philosophy and the empirical relation to a field. In the second chapter of *Philosophie de Terrain*, Vollaire identifies a wide range of philosophers that have engaged with field research and mentions names as diverse as Spinoza, Marx and Engels, Simone Weil, Hannah Arendt, Bordieu and Michel Foucault (Vollaire 2017, pp. 51-134). In this pantheon, Marx and Foucault are clearly set as references for their unquietness, as we later shall see in greater detail. The book includes yet a third chapter where the fundamental situated experiences of the author are revealed in her fieldwork in Egypt, Chile and Bulgaria (op. cit., 137-156) and a section on the politicization of the aesthetic experience, which reflects on the role of photography in ‘field philosophy’ (op. cit., pp. 157-176). Vollaire considers *Pour une philosophie de terrain* as having a “polemical value” as it places her formulation against the idealist academic tradition, which is standardized in the academy and other educational institutions (op. cit., p. 11). Although her work has been received with enthusiasm, scholars has been critical of how such “polemical value” has been

³² My own translation.

³³ My own translation. According to the original passage: “Platon est un Athénien du IV^e. Siècle, déçu par la Cité. Or c’est précisément cette déception et le projet théorique qu’elle suscite qui sont à l’origine de la durabilité du platonisme” (Châtelet 1979 in Vollaire 2017, p. 13).

detrimental to the reception of Vollaire's work (Bedon et. al. 2020, Paltrinieri 2020). Bedoun accuses how certain French academics, in spite of wishing to transform their practice, feel a certain allergy to her opening statement (Bedon et. al. 2020, pp. 231-232).

What distinguishes *Pour une philosophie de terrain* from other considerations over 'field philosophy' is, in one hand, its inscription on a genealogy of authors and, simultaneously, the appeal to a detailed practice of fieldwork in philosophy. According to Vollaire's historical reading, the human and social sciences were founded by a rupture with philosophy's idealism (Vollaire 2017, p. 7). Being "above the ground" comes as an analogy for an hierarchization of knowledge (op. cit., p. 9). Authors, like Marx, were fundamental to save a philosophy that wants to transform the world (op. cit., p. 64). The restlessness of polemical encounters and the political struggles that guide Marx and Engels' works are fundamental for their written work (op. cit., p. 65). As Vollaire substantiates more about 'field philosophy', Foucault is also inscribed in this pantheon, taking a central role. As Vollaire states,

"Philosophical thought would be less the origin of these decisions for action than its product. This is the reason why the «threshold for writing» can no longer be the access to a sacred dimension separated from the profane, since it constitutes on the contrary the result and the product of a reality born in action, in the profane world of power relations and in the contestation and crisis of these relations³⁴".

(Vollaire 2017, p. 117)

In this passage, Vollaire elaborates about how being engaged in forms of political struggle is a constitutive part of a specific type of philosophical activity, taking her inspiration from Michel Foucault's writings. The boundary between a profane dimension associated with (political) action and another of sacralized (philosophical) writing is what needs to be abolished. The politicization of the author has a fundamental step, of actual engagement in political action. Her considerations elaborate further on the role of the intellectual (op. cit., pp. 117-121). Searching for the roots of a "specific intellectual", is significant the 1972's exchange between Foucault and Deleuze named as "The intellectuals and the power" (Mouchard 2009).

"The role of the intellectual is no longer to place oneself "a little ahead or a little beside" in order to tell the mute truth of everyone; it is rather to fight against forms of power where the intellectual is both the object and the instrument: in the order of «knowledge», of «truth», of «consciousness», of

³⁴ My own translation. According to the original quote: "“La pensée philosophique serait moins l'origine de ces décisions d'action qu'elle n'en serait le produit. C'est la raison pour laquelle le «seuil de l'écriture» ne peut plus être l'accès à une dimension sacrée séparée du profane, puisqu'il constitue au contraire le résultat et le produit d'une réalité née de l'action, dans le monde profane des rapports de pouvoir et dans la contestation et la mise en crise de ces rapports” (Vollaire 2017, p. 117).

the «speech»³⁵.

(Foucault 1990 p. 308)

This statement by Foucault elaborates on the forms of political action that an intellectual should take, against forms of power that act upon him or herself. No longer a “little ahead or a little beside” but as an actual actor. This distinction between an agent, that intervenes in the political process, and an actor, that takes intentional action in such matters emerges as important for Vollaire (Vollaire 2017, p. 121). This is a decisive step to understand the political role of the interview that takes place in her practice.

2.1.1 Field philosophy, the role of the interview

Vollaire's approximation to 'field philosophy' in *Pour une philosophie de terrain* is done by an exclusive choice over the interview as a tool she appropriates, a place for the creation of intersubjective relationships (Vollaire 2017, pp. 18-19). Among the pantheon of authors she evokes, Marx and Engels are set as the founders for creating that rupture with the established *praxis* of philosophy of their time by defining a field (op. cit., pp. 64-76). Vollaire specifically places Engels in that turn once he, between 1844 and 1845, creates a protocol for an interview for the working class through his own engagement as worker in Manchester (op. cit., p. 66). This work, published in 1845, represents a practice of 'field philosophy' according to Vollaire, as it creates a relation based upon the intersubjectivity with the other workers, in which they aren't placed as objects but as actual partners of that research (op. cit., pp. 66-67). Thus, keeping in mind these others as partners to the production of philosophical knowledge is of fundamental importance in 'field philosophy'. Vollaire, takes a major inspiration in this regard from Foucault, specifically during the time that the author was partaking the Iranian revolution in 1975 (op. cit., p. 126). As Foucault was witnessing and reporting the “birth of ideas” (“*reportage d'idées*”) for *Corriere della Sera*, he was adventuring through the suburbs of Teheran while he was questioning the people he found (op. cit., pp. 128-130). “What is it that you want?” - he would ask, as an anthropological regard was aiming to find a philosophical common collective power (op. cit., p. 130). Christianne Vollaire's motivation is here anchored with Foucault exploring the subaltern geographies looking for the multiple political differences able to create a “community of desire” (ibidem).

As Vollaire elaborates over the role of the interview, she has a specific entry- point, as the interview with the other signifies a horizontal character of the shared experience. To Vollaire that is expressed through a distance that needs to be problematized,

³⁵ My own translation. From the original French: “Le rôle de l'intellectuel n'est plus de se placer «un peu en avant ou un peu à côté» pour dire la vérité muette de tous; c'est plutôt de lutter contre les formes de pouvoir là où il en est à la fois l'objet et l'instrument: dans l'ordre du «savoir», de la «vérité», de la «conscience», du «discours»” (Foucault 1990 p. 308).

“In the same way that forms of solidarity are contemplated, distance is necessary, both in respect to persons and in regard to situations, supposing a triple refusal: refusal of objectivation, which would make the partner a mere object of work; antagonistic refusal of identification, which would lead to a fusional desire for reduction of the other to his own data and indifference to this partner; refusal of projection, which imputes to the other his own expectations and which one finds as well in the form of exotic fascination as under that of compassionate emotion³⁶”

(Vollaire 2017, p. 36)

The importance of the interview is framed by Vollaire on the domain of the rational thinking. Reasoning, if anything, is what characterizes philosophical thought, here framed by its relation to reality. The triple refusal that she describes emanates from her political work with others, usually identified as underprivileged. The attention given to attentive listening is crucial not to fall in the trap of seeing the other just from a selective perspective of what is the information to be valuable. Like a book that is for the first time seen, it needs to breathe in our hands, to feel where the text comes from. To the feminist philosopher Donna Haraway, having situated knowledges is a matter of a “passionate detachment”, a matter of seeing through reports of domination (Haraway 1988, p. 585). Awareness of situated struggles of gender, class and race becomes significant for such practice to take place if dealing with the people from the margins (Harding 1993, p. 54). At first sight, an external inquirer at the social margins will be seen by its privilege, which defines, for Vollaire, the political nature of the interview (Vollaire 2017, pp. 40-43). There are places marked by struggles and violence. An interview would be as much a place to ask questions, as to let them fall and to listen to the silences, as that refusal to answer might even say something about the correlation to the collective as a universal category (op. cit., p. 41).

Relations of trust need time and intimacy. As engaged researchers see through the moment of an interview as a scene of being in solidarity to recognize the world of the other, the same moment, with a greater immersion in the field, can also be seen as an event of equality. Imagining an encounter where the *equality of intelligences* is recognized is not, although, something immediate when considering the social differences that permeate societies. The author Jacques Rancière framed such intellectual equality as he was, not dealing directly with people, but as he was researching through workers’ archives from the XIX century. In the book *Le maître ignorant: cinq leçons sur l’émancipation intellectuelle* (in english translated to: ‘The ignorant schoolmaster: five lessons in Intellectual Emancipation’), the author introduces the

³⁶ My own translation. In the original French: ““Dans la mesure même où sont visées des formes de solidarité, la distance s’avère nécessaire, à la fois par rapport aux personnes et par rapport aux situations, suposant un triple refus: refus de l’objectivation qui réduirait le partenaire à un simple objet de travail, refus antagoniste de l’identification, qui ferait entrer dans un désir fusionnel de réduction de l’autre à ses propres données et d’indifférenciation du partenaire; refus de la projection, qui imputerait à l’autre ses propres attendus et qu’on trouve aussi bien sous la forme de fascination exotique que sous celle de l’émotion compassionnelle” (Vollaire 2017, p. 36).

titular character that he found in the archives, Jacotot, and follows through the methods and adventures that he applied with his students (Rancière, 1987). As a philosopher, Rancière works through the concept of *equality* in his works³⁷, and in this book the practice of *intellectual equality* is presented with the lessons of the ignorant schoolmaster. “All men have equal intelligence”, declares Jacotot as he believes that he “can teach that which he ignores”³⁸(op. cit., pp. 29-34). *Emancipation* and *stultification* are defined in this work, by relations of wills and intelligences among master and student. Stultification is defined by the subjugation of the learner’s intelligence to its master, while emancipation is marked by “the act of an intelligence obeying only itself”³⁹(op. cit., p. 26). The report of domination of intelligences, that Rancière identifies with stultification, is the one which the schoolmaster measures the student by his or her ignorance, as a gap to be filled. Emancipation, on the other hand, is the possibility of taking ignorance as a new start, a path to be discovered.

This awareness can also be found in the field. And finding the possibility to enter a more open path, as Jacotot enacted is, from the start, not easy. The researcher needs to enact certain refusals to his or her instincts, as Voltaire warns above, or will be tempted to capture the other. This sense of conquering a knowledge, is exemplified by Voltaire in the definition of the field,

“The researcher is the one who gains ground on the unknown by situating himself outside his own grounds, in a strategy of conquest. “Making” a field would therefore be the intentional form of a displacement, of an exile from the original intellectual condition towards the empirical condition, so that the the territorial space of knowledge can be increased⁴⁰”.

(Voltaire 2016, p. 15)

The considerations that Voltaire does in this passage have as a starting point the etymology of the word ‘*terrain*’, the French expression for the word ‘field’ (op. cit., pp. 14-15), but have an existential sense that surpasses the initial meaning found on a dictionary. A certain researcher relates to an empirical field to conquer new knowledge while being situated somewhere above in an ivory tower. Such condition is relatable to the contemporary mode of a

³⁷ See in the Introduction how political equality is framed by the author in the book *La Mésentente – Politique et philosophie* (‘Disagreement – Politics and Philosophy’ – Rancière 1995). A complementary, aesthetic sense to equality is elaborated through the concept of distribution of *the sensible* in the book *Le Partage du Sensible – esthétique et politique* (‘The distribution of the sensible – aesthetics and politics’ – Rancière 2000).

³⁸ My translation.

³⁹ The concept of ‘stultification’ is named in the original French as ‘*abrutissement*’ and ‘emancipation’ as ‘*émancipation*’. The translation here given is the one usually taken in the English- speaking world, as one can find in the English translations of this work, as in the translation of Kristin Ross, edition of the Stanford University. This quote is also translated from that same edition (Rancière 1991, p. 13).

⁴⁰ My own translation from the original French. On the original passage: “Le chercheur est celui qui gagne du terrain sur l’inconnu en se situant hors de son propre sol, dans une stratégie de conquête. “Faire” un terrain serait donc la forme intentionnelle d’un déplacement, d’un exil de la condition intellectuelle originelle vers la condition empirique, en vue d’augmenter l’espace territorial d’un savoir” (Voltaire 2016, p. 15).

'fast science'. A student of philosophy, for instance, should keep a production output, should publish a number of papers, so that his academic contribution can be seen as having value. The question of time and speed of academic production is a priority for a responsible researcher and might present itself as a challenge for his or her availability to engage with others. Isabelle Stengers, philosopher of science, is concerned with this state of affairs. She has done herself empirical work in chemistry in her past and collaborated notoriously with the chemist Ilya Prigogine in the production of knowledge. In 2013, defending the need for science to slow down, Stengers directed a plea to 'fast science' researchers (Stengers 2013, pp. 83-112). The temporary exile of the philosopher to the field to conquer new knowledge, as described above by Vollaire, is not creating productive relations. Furthermore, this idea of development associated to these fast practices, following Stengers, has proven to be an enemy of a life worthy to be lived (op. cit., p. 112). She argues that the researchers should take into consideration their responsibility, such as their capacity to reply to the consequences of what their science allows them to see, involving others that have relevant concerns (op. cit., p. 112). In a passage, Stengers says,

"Nothing in their current training prepares researchers for this kind of participation, which should exclude any superficial judgment, any connivance between those who know. It is indeed a dismantling of the habits of the professional that is required to participate in such a test, in this new type of «civility»⁴¹."

(Stengers 2013, p. 108)

Stengers identifies in this passage the difficulties for a researcher to engage in social participation. Certain modes of abstraction that are typical to contemporary research create troubling pressures to the social participation out in the street⁴². Stengers is targeting in this plea laboratory scientists, but a similar problem can be related to philosophical research. The idea of "civility" that the author presents here is opposed to a rational scientific idea that imposes its authority in the world (op. cit., p. 107). Certain habits⁴³ impose a way of dealing with problems that are socially exclusive. For a philosopher to enter a field, discusses Vollaire, similar obstacles exist (Vollaire 2017, p. 15). To be able to discuss issues broadly, to interconnect concepts and theories, as a form of universalism, is opposed to grounding philosophical research in a given territory. Second, the desire for neutral objectivity can block the availability to engage in an intersubjective relation (ibidem). These difficulties of engagement are here diagnosed by Stengers and Vollaire, so that another regard can be taken.

⁴¹ The concept of «civility» here introduced by Stengers is influenced by her reading of Whitehead. I leave here the original quote in French (the translation above was done by myself): "Rien dans leur formation actuelle ne prépare les chercheurs à ce genre de participation, qui devrait exclure tout jugement superficiel, toute connivence entre ceux qui savent. C'est bel et bien un démantèlement des habitudes du professionnel qui est requis pour participer à une telle mise à l'épreuve, à ce nouveaux type de «civilité»" (Stengers 2013, p. 108).

⁴² Stengers probably envisions this social participation related to the interaction with social movements (Stengers in Brune 2003).

⁴³ The notion of habit here referenced by Stengers is considered in a tradition of philosophical pragmatism.

“Whether the observation applies to the “indigent” or the “indigenous” it always imposes on the overlooking eye to have a demand for information, and thereby recognize its inadequacy and incompleteness, in comparison with that which he considered until then in a position of insufficiency. This same backtracking of the observation protocol is necessary in the face of mental illness, where listening to the informative and informed speech of the «defaulter» forces to hear not a pure and simple delirium, but a logic rigorously equivalent to that of rational discourse, that it refers to his or her own subjective assumptions and the relativity of its data⁴⁴”

(Vollaire 2017, pp. 18-19)

The problem that Vollaire makes evident in this passage is one between philosophy and simple observation, that could be informed by the employment of ethnography during a field experience. The demand for information of the researcher in philosophy would always entail an overlooking eye of the ones observed with an interpretation of events, a backtracking of the observation protocol. Using as an example the delirium of the one that is being observed, as herself worked in a clinical context, the regard of the researcher will always see more than the situated report of his or her informant. The researcher will relate the information given to subjective assumptions, will employ heuristic and semeiotic means to interpret those events and create “philosophical evidence” (op. cit., p. 19). This problem is then a default of an intersubjective report, which compels Vollaire to select the interview as a tool for field research, and specifically the semi- directive interview, avoiding the extractivist attitude that a directive interview would entail (op. cit., pp. 40-50). For Vollaire, it is through this embedding in inter-relations with the ones politically subjugated, that a real standpoint of the researcher can be attained. As she substantiates: “By the subjectively lived and reflected data, can be drawn a possible objectification of situations, relations and power relationships⁴⁵” (op. cit., p. 179).

Vollaire’s manifesto is both innovative and transformative for the place that philosophy can take to relate with subjugated knowledges and lived experiences, but it creates a distance to an anthropological- ethnographic experience that needs to be further clarified. The creation of an intersubjective relation to a field through the meeting point of an interview creates new possibilities that aren’t dependent on the researcher of philosophy to dwell with the

⁴⁴ My own translation from the original French. Here the original quote: ““Que l’observation s’applique à l’«indigent» ou à l’«indigène» elle impose toujours au regard surplombant de se retourner en regard quémandeur d’information, et de reconnaître par là son insuffisance et son incomplétude, face à celui qu’il considèrerait jusque-là en position d’insufisance. Cette même prise à revers du protocole d’observation s’impose face à la maladie mentale, où l’écoute de la parole informative et informée du «défaillant» oblige à entendre non pas un pur et simple délire, mais une logique rigoreusement équivalente à celle du discours rationnel, qu’elle renvoie par là à ses propres présupposés subjectifs et à la relativité de ses données” (Vollaire 2017, pp. 18-19).

⁴⁵ My own translation from the original French. Here the original quote: “par ses données subectivement vécues et réfléchies, peut se dessiner une objectivation possible de situations, de relations et de rapports de pouvoir” (Vollaire 2017, p. 179).

intersubjective reports of others. The long emersion that a field experience could attain by the use of ethnography as an empirical ground can create new possibilities. We will explore what are the tensions related to an anthropological- ethnographical approach that is grounded in philosophy in the next section, framed by a contemporary debate over what became known as the 'ontological turn' in anthropology.

2.2 Anthropology and the Ontological Turn

The ethnographic work on scientific activity driven by science and technology studies (STS) had, itself, an impact on anthropology. Who says it is Eduardo Viveiros de Castro, Brazilian anthropologist. "The modern opposition between science and non-science is equally a 'model of' and a 'model for' the greater separation between Western modernity and the other, the barbarians, the primitives" (Viveiros de Castro 2015, p. 5). In other words, the philosophical problem of the demarcation of science has, through the hands of STS ethnographic practices, a cultural consequence, widening the gap between the "modern" and the "primitive". "Because of this," continues the author, "any attempt to investigate empirically how science establishes its a priori discontinuity with politics (and with opinion, religion, ideology) immediately threatens the other great gap, that between Us and Them, modern and non-modern and sometimes, 'even' between humans and non-humans. This is how epistemology becomes ontology" (ibidem). The work on anthropology of science that has been produced "multiplied and differentiated" the demarcation between science and non-science in a "cloud of practices with specific requirements and obligations" (ibidem). This situation has made "all frontiers, internal as well as external, much more permeable. Alterity⁴⁶ became delocalized" (ibidem). The problem of demarcation of science brought a transformation, argues Viveiros de Castro, that of an emancipation from the 'other's' gaze.

These arguments entered a contemporary academic debate. Viveiros de Castro is a popular advocate of the so-called 'ontological turn' that wants to redefine anthropology. This term was coined by Martin Holbraad and is associated with the names of other anthropologists such as Morten Pedersen and Casper Bruun Jensen and their previous mentors Marilyn Strathern and Eduardo Viveiros de Castro.

Eduardo Viveiros de Castro was educated by Jesuits in Rio de Janeiro and worked as an anthropologist with the Araweté of eastern Amazonas. He became first known outside his country in Paris, for his effort to extend the structuralism of Claude Lévi-Strauss (Skafish 2014, p. 11). The development of his work ended up marking the reading of another Lévi-Strauss and a post-structuralism that is much due to the philosophy of Gilles Deleuze and Félix Guattari. *Métaphysiques cannibales. Lignes d'anthropologie post-structurale* ('Metaphysical cannibalism for a post-structural anthropology') was the great work of 2009 by Viveiros de Castro initiated

⁴⁶ The concept of 'alterity' here named by Viveiros de Castro has a central role in his theoretical development, as we will see later.

with a deep Deleuzian inspiration (Viveiros de Castro 2009). If the collaboration between Gilles Deleuze and Félix Guattari wanted an anti-Oedipus for psychoanalysis (and its infiltrations), Eduardo Viveiros de Castro was inspired by Deleuze and Guattari to produce an anti-Narcissus for anthropology. Through his entry in the Amerindian perspective and entering the world-view of the natives, he envisioned a new path for anthropological practice. The definition it gave to the discipline was striking. In the words of Viveiros de Castro, the anthropology that refuses to be self-obsessed, is aimed for “being the theory/practice of the permanent decolonization of thought”, marked by the “alliance between the conceptions and practices that arise from the worlds of the so-called “subject” and “object”” that mark the discipline⁴⁷ (op. cit., p. 4). Or, in other words, Viveiros de Castro believes the practices and concepts of those which anthropology studies can transform the discipline itself.

The repercussions of Viveiros de Castro redefinition of anthropology had a direct influence on the 'ontological turn' movement. This influence was due to the statement that *Métaphysiques cannibales* represented, but also to other preceding and following works that worked upon the disciplinary subtleties that were there implied. The first claim for the 'ontological turn' was taken in a 2007 work, “Thinking through things” with the announcement of a “silent revolution” (Herare et. al. 2007). But what ontology are we talking about? It is certainly an alternative to the usual definition; in that it ceases to be anchored in a philosophical discourse on the practices of social and human sciences to be an adopted concept to refer to a discourse in relation to some particular 'way of being'. According to Pedersen, this usual meaning of ontology is in line with a “metaphysical, essentialist and absolutist connotation” (Pedersen 2012). For the authors of the 'ontological turn', this regard on ontology has been evoked in recent years almost synchronously and independently by anthropologists such as Philippe Descola and Elizabeth Povinelli, in the discourse of philosophers of science such as G. E. R. Lloyd and Peter Galison and by authors associated with the field of STS such as Bruno Latour and Andrew Pickering (Viveiros de Castro 2015, p. 8).

The origin of the 'ontological turn' arises in this context and has, according to Viveiros de Castro, a double origin. First as a solution to a syndrome that affects anthropology, the 'crisis of representation'. This problem was first formulated in an interdisciplinary work edited by James Clifford and George Marcus in 1986, *Writing Culture: The Poetics and Politics of Ethnography*. According to Viveiros de Castro, in the light of this work, ethnographic work becomes a “task finally impossible” (Viveiros de Castro 2015, p. 4). Secondly, the author justifies the origin of the ontological turn with a reaction to a classical definition of anthropology as production of discourses on human knowledge in a psycho-cognitive style (ibidem).

In this pantheon of authors, the anthropologist Marilyn Strathern appears in a central role, evoked from the outset as an alternative to this 'crisis of representation' and psycho-cognitivism. In what is considered her magnum opus, *The Gender of Gift* from 1988, Strathern situates herself in the feminist critical tradition. This book is considered as a continuation of the classic work of 1925, by the sociologist Marcel Mauss, *The Gift*. Viveiros de Castro places this

⁴⁷ My own translation.

contribution of Strathern also in a special position, as it intensifies and reflects on the lesson of Mauss and "shattered the person vs. thing presuppositional frame" (Viveiros de Castro 2015, p. 4). Viveiros de Castro considers that Strathern took the work of Mauss and made it reflexive, as she translated Melanesian ontologies as 'knowledge practices' and made them analyze their own ontological determinations.

To find an anti-psychological version of anthropology, Viveiros de Castro placed Strathern's work in a special position. There is a Deleuzian reading here understood. Viveiros de Castro draws inspiration from Deleuze to consider anthropology as a decolonization of thought and places Strathern, by her reflexivity, in this tradition. In addition, Casper Bruun Jensen and Kjetil Rødje's analysis also finds a subterranean, rhizomatic vein that connects *The Gender of the Gift* to the work of Gilles Deleuze (Jensen Rødje 2009, p. 15). Strathern worked in depth with natives of Papua New Guinea, from the highlands of Mount Hagen. For Strathern, as for Viveiros de Castro, the ideas and descriptions narrated by the indigenous evoke another world, different 'from ours'.

"[The] difference that exists is in the fact that the ways by which Melanesians describe an account of human nature are radically different from ours - and the point is that we only have access to descriptions and explanations, we can only work with that. There is no way to avoid this difference. So, you can't say: all right, now I understand, it's just a matter of different descriptions, so let's move on to the points in common between us and them... because from the moment we enter communication, we do it through these self-descriptions. It is essential to realize that⁴⁸"

(Strathern 1999)

The role that the self- descriptions have is of paramount importance for the anthropologist's work that wishes to enter into the other peoples world- views, as Strathern highlights in the interview with Viveiros de Castro where this quote above was extracted. There is a synergy between the authors in how they view anthropology. Viveiros de Castro first visited Cambridge at the invitation of Stephen Hugh Jones and offered a series of classes that marked his career. As soon as he arrived in Cambridge, the author says that he was immediately "caught in the aesthetic trap of the intellectual gift", comparing Strathern's work to Alice's mirror (Viveiros de Castro 2015, p. 3). Following Viveiros de Castro, he considers that to learn to see in Anthropology through Strathern is equivalent to crossing the mirror into wonderland, in evocation of the 'ontological turn' (ibidem). Looking for a possible definition for ontology in

⁴⁸ My own translation from Portuguese. In the original quote: "[A] diferença que existe está no fato de que os modos pelos quais os melanésios descrevem, dão conta da natureza humana, são radicalmente diferentes dos nossos — e o ponto é que só temos acesso a descrições e explicações, só podemos trabalhar com isso. Não há meio de eludir essa diferença. Então, não se pode dizer: muito bem, agora entendi, é só uma questão de descrições diferentes, então passemos aos pontos em comum entre nós e eles... pois a partir do momento em que entramos em comunicação, nós o fazemos através dessas autodescrições. É essencial dar-se conta disso".

Strathern, Viveiros de Castro defines it as post-plural, interdiscursive, fractally multiple, scale independent (op. cit., p. 10). Still, the term of ontology is absent in Strathern's vocabulary.

The metatheoretical maturity of Viveiros de Castro is built this way, inspired by the work of Strathern, but not only. Before the edition of *Métaphysiques cannibales*, there was an article that substantiated this 'new' anthropology: "O Nativo Relativo" ('The Relative Native') published in 2002 (Viveiros de Castro 2002). Using the inspiring quote of another anthropologist, Tim Ingold, Viveiros de Castro states: "*anthropology is philosophy with the people in*" (op. cit., p. 127). Anthropology as a philosophy populated, by the author's definition, not only of ordinary people, but of 'peoples'. That is, as "possibility of a philosophical activity that maintains a relationship with non-philosophy - life - of other peoples on the planet, in addition to our own" ⁴⁹(ibidem).

This project is directly identified with geophilosophy, as worked by Deleuze and Guattari. In the last joint work of these authors, *Qu'est-ce que la philosophie?* ('What is philosophy?'), geophilosophy took shape in its fourth chapter (Deleuze Guattari 1991, pp. 86-114). The very thought takes place between territory and the earth, the authors tell us in the opening words⁵⁰. As Viveiros de Castro aims to populate anthropology with other 'peoples', finds in Deleuze and Guattari's notion of geophilosophy an inspiration to a practice of empirical inquiry that can deliver concepts and work with them: "If the 'real' philosophy has an abundance of imaginary savages, the geophilosophy aimed by anthropology makes an 'imaginary' philosophy with real savages. *Real toads in imaginary gardens*, as the poet Marianne Moore said" ⁵¹(Viveiros de Castro 2002, pp. 127-128).

⁴⁹ My own translation from Portuguese.

⁵⁰ "Thinking is neither a thread between a subject and an object nor a revolution of one around the other. Thinking is rather done in the relationship of territory and the earth" (Deleuze Guattari 1991, p. 86). My own translation. In the original French: "Penser n'est ni un fil tendu entre un sujet et un objet ni une révolution de l'un autour de l'autre. Penser se fait plutôt dans le rapport du territoire et de la terre" (Deleuze 1991, p. 86).

⁵¹ My own translation from Portuguese.

2.2.1 Ontological turn, an introduction

The will to affirm other anthropology(/ies) emerges collectively with the 'ontological turn' and more particularly with individual proposals of anthropologists who make the movement in relation to their fieldwork. Martin Holbraad is at the heart of this turning point, as one of the leading young academics. His main fieldwork was in Cuba, with Afro-Cuban religions and revolutionary politics. Holbraad's proposal to practice *ontography* is already inscribed as an ethnographic practice of its own: by mapping ontological differences (Holbraad 2012, pp. 255-259). Marilyn Strathern is evoked as an independent figure, not explicitly allied to this collective but as essential to the conceptual developments in progress. Eduardo Viveiros de Castro soon emerges as an unequivocal mentor, in his considerations of another form to face the discipline through his epistemic/ontological and philosophical positioning. This standpoint was developed throughout Viveiros de Castro's anthropological work. Nonetheless, we could identify a concrete moment where he was pressed to reconsider his regard towards his informants that came to be consequential to the 'ontological turn'.

"Isabella Lepri, an anthropology student asked me, I think in May 1998, if I believed that peccaries are human. (For no apparent reason) she believed that if the Indigenous said such a thing, then it must be true. I added, with perversion and somewhat lying, that I only 'believed' in atoms and genes, in the theory of relativity and evolution of species, in class struggle and in the logic of capital, in short, in this kind of thing; but that, as an anthropologist, I took the idea that peccaries are human perfectly seriously. She replied: "How can you maintain that you take what the Indigenous say seriously? This is not just a way to be polite with your informants? How can you take them seriously if you only pretend to believe what they say?"⁵²

(Viveiros de Castro 2002, pp. 132-33)

As Viveiros de Castro's student confronted him with his beliefs over his informants' world-views, this became a defining moment, as it made him reflect. If he indeed take the indigenous peoples ideas and concepts seriously, that should have consequences. If peccaries are really human, what could that tell him about the indigenous conceptualization of being human? (op. cit., pp. 136). It's in this sense that Viveiros de Castro was drawn to reconsider the cosmology of the peoples in the Amazon. He aligned himself in this way, not only with the anthropology of Marilyn Strathern, but also with the work of Roy Wagner.

⁵² My own translation. From the original Portuguese: "Isabella Lepri, estudante de antropologia perguntou-me, penso que em maio de 1998, se eu acreditava que os pecaris são humanos, (sem nenhuma razão) que ela acreditava que, se os índios diziam tal coisa, então devia ser verdade. Acrescentei, perversa e algo mentirosamente, que só 'acreditava' em átomos e genes, na teoria da relatividade e na evolução das espécies, na luta de classes e na lógica do capital, enfim, nesse tipo de coisa; mas que, como antropólogo, tomava perfeitamente a sério a ideia de que os pecaris são humanos. Ela me contestou: "Como você pode sustentar que leva o que os índios dizem a sério? Isso não é só um modo de ser polido com seus informantes? Como você pode levá-los a sério se só finge acreditar no que eles dizem?" (Viveiros de Castro 2002, pp. 132-33).

Roy Wagner, like Strathern, is dedicated to Melanesia as his fieldwork and elaborated between the 70's and 80's considerations about a people from New Guinea, the Daribi, and the nature of anthropology. In *Habu* (1973), Wagner considers the role of invention in the social life of the Daribi. Later, in his *The invention of culture* (1981), he works to assert the "symbolic constitution and motivation of actors in various cultural situations" (Wagner 1981, p.7). Radically, his ethnographic description leads him to define his own epistemology. This means that Wagner 'melanizes' anthropology itself, taking the forms of invention of the Daribi as an ethnographic mold with which he reinvents the epistemology of anthropology itself, as a mode of invention. It's in this sense that Martin Holbraad believes that Viveiros de Castro's before mentioned paper "O Nativo Relativo" brings Wagner's assault on the nature/culture matrix of anthropological thinking full circle" (Holdbraad 2013, p. 470), as Viveiros de Castro asserts the same reconsideration of anthropology itself through the native's world- views, just not positioned like Wagner in Melanesia, but in the Amazon. Moreover, the work of Roy Wagner inspires directly Viveiros de Castro to draw epistemological considerations:

"The anthropologist usually has an epistemological advantage over the native (...), it's him who explains and interprets, translates and introduces, textualizes and contextualizes, justifies and means the given sense. The relational matrix of anthropological discourse is hileomorphic: the anthropologist's sense is form; the native, matter. (...) If, instead of conceding that we are all natives, we take to the last, or due, consequences the opposite bet - that we are all 'anthropologists' (Wagner 1981:36), and not some more anthropologists than others, but only each with his own mode, that is, with very different modes?"⁵³.

(Viveiros de Castro 2003, p. 115)

Throughout this article the name of Roy Wagner comes back as a touchstone to the epistemology of this other anthropology. As the quote shows, the radical equivalence between the anthropologist and the native is what Viveiros de Castro finds of interest in Wagner's work. This "common cultural condition" is what Viveiros de Castro wishes to rescue.

"The idea of culture (...) places the researcher in a position of equality with his subjects: each "belongs to a culture." (...) We assume that every culture (...) is equivalent to every other one. This assumption is called "cultural relativity." The combination of these two implications of the idea of culture, the fact that we ourselves belong to a culture (relative objectivity), and that

⁵³ My own translation from the original Portuguese. I leave here the quote in its original language: "O antropólogo tem usualmente uma vantagem epistemológica sobre o nativo (...), ele quem explica e interpreta, traduz e introduz, textualiza e contextualiza, justifica e significa esse sentido. A matriz relacional do discurso antropológico é hilemórfica: o sentido do antropólogo é forma; o do nativo, matéria. (...) Se, em lugar de admitir complacentemente que somos todos nativos, levarmos às últimas, ou devidas, consequências a aposta oposta — que somos todos 'antropólogos' (Wagner 1981:36), e não uns mais antropólogos que os outros, mas apenas cada um a seu modo, isto é, de modos muito diferentes?" (Viveiros de Castro 2003, p. 115).

we must assume all cultures to be equivalent (cultural relativity), leads to a general proposition concerning the study of culture. As the repetition of the stem "relative" suggests, the understanding of another culture involves the relationship between two varieties of the human phenomenon; it aims at the creation of an intellectual relation between them, an understanding that includes both of them. The idea of "relationship" is important here because it is more appropriate to the bringing together of two equivalent entities, or viewpoints, than notions like "analysis" or "examination," with their pretensions of absolute objectivity".

(Wagner 1981, p. 13)

Wagner expresses in this passage the importance of culture as the common grounds to relate to his informants, not as to generate equivalence between the culture of the anthropologist and that of the native, but to comprehend the difference among them. This way, the relationship itself emerges as central to the establishment of the epistemology he elaborates. He isn't interested in defining in his terms an analysis or examination, but on what knowledge can become visible from the relationships he establishes with the Daribi people. Viveiros de Castro is lured to this insight, as he uses this critical Wagner to deny the classic subject-object relationship, replacing it with a relationship "between relations" ⁵⁴(Viveiros de Castro 2002, p. 113). In this context, Viveiros de Castro recovers the idea of nature as the way the native peoples conceive it.

Viveiros de Castro, inspired by the work of Wagner formulates a mission for this other anthropology, that can be seen in the title of one of the sections of the paper we've been dealing, the "Nativo Relativo": Anthropology is not about explaining or interpreting, but rather of multiplying and experiencing (Viveiros de Castro 2002, p. 128). Wagner's "common cultural condition" is framed by an epistemological imperative, formulated as the "continuity of procedures": "the procedures that characterize the research are *conceptually* of the same order as the procedures under investigation" (Viveiros de Castro 2002, pp. 116-117). Inspired by Wagner, Viveiros de Castro makes here an important step. Such "continuity of procedures" implies that anthropology doesn't ought to be worried about a single (natural) problem and its different procedures, as searching for solutions, but should be open to see many different problems (op. cit., p. 117). This positioning would come to be worked upon the following years, building up from the proposal of an 'Amerindian Perspectivism'.

The concept of 'Amerindian perspectivism' was worked by Viveiros de Castro and in parallel by anthropologist Tânia S. Lima (Viveiros de Castro Danowski 2017, p. 99). Does perspectivism serve to find the native's point of view? Yes and no... No because it is not the purpose to interpret. It is about conducting an experiment with Amerindian thought and with ours: entering the thinking of the other by real experience, considered as a "thought experience" and the exercise of anthropological fiction. This fiction exercise consists in "taking indigenous

⁵⁴ Finding inspiration for this step also in the work of Gilbert Simondon (Viveiros de Castro 2002, p. 141).

ideas as concepts, and in extracting the consequences from this decision"⁵⁵ (Viveiros de Castro 2002, p. 123). 'Amerindian perspectivism' has, this way, its own roots in ethnography made to reflect on the ideas taken from diverse practices, as with shamanism and chase (Viveiros de Castro 1998). Viveiros de Castro works then from this point with the concepts that are evoked by the indigenous' ideas. François Jullien emerges as one of the philosophers whose work influences the construction of perspectivism, namely in its definition of different "modes of orientation of thinking" (Viveiros de Castro 2002, pp. 123 e 125). Jullien's definition appears parallel and complementary to the very definition of "concept" as intensive multiplicity inscribed in a plane of immanence. Moreover, the association between perspective and relationship gains density by the notion of *truth of the relative* in connection to Deleuze. According to Viveiros de Castro,

"Perspectivism - that of Leibniz and Nietzsche as that of Tukano or Juruna - is not a relativism, that is, an affirmation of a relativity of truth, but a relationism, by which it is stated that the *truth of the relative is the relation*"⁵⁶

(Viveiros de Castro 2002, p. 129)

Viveiros de Castro defines, this way, a philosophical- inspired perspectivism to the Amerindian anthropological ontologies. The Amerindian tribes Tukano and Juruna's universes are populated by "extra-human intentionalities", each with its own perspective. The anthropologist's mission becomes, according to Viveiros de Castro, to find and experiment with these ideas as concepts. This task opens the anthropological practice to the regard of others that have been considered historically as objects to an overhanging view of the anthropologist as interpreter. Still, this movement is multiple and uncertain about how to go in its relation to epistemology proper. In rupture with the modernist tradition, there is a clear dissonance. A debate within the discipline of Anthropology ensued. We will follow this debate to shed some light on what's at stake.

⁵⁵ In the same passage, in a clear approximation to the lexicon of the Deleuzian universe, more is elaborated on the consequences of the experimental exercise, aimed to "establish the pre-conceptual grounds or the plan of immanence that such concepts presuppose, the conceptual characters they trigger, and the matter of the real that they present". Moreover, it should be considered that here "concept" is taken as "intellectual objects or events, not states or mental attributes", in agreement with the philosophical approach (Viveiros de Castro 2002, p. 124). The italics are from the author. My own translation.

⁵⁶ My own translation. According to the original quote in Portuguese: "O perspectivismo – o de Leibniz e Nietzsche como os do Tukano ou Juruna – não é um relativismo, isto é, afirmação de uma relatividade do verdadeiro, mas um relacionismo, pelo qual se afirma que a *verdade do relativo é a relação*" (Viveiros de Castro 2002, p. 129).

2.2.2 The Ontological Turn debate

A debate over the transformative premises of the 'ontological turn' took place in 2015 through two articles published by the anthropologists Eduardo Viveiros de Castro and David Graeber (Graeber 2015, Viveiros de Castro 2015). Both actors are seen as prominent, both known academics with profound societal impact with a deep coherence between theoretical perspectives and empirical work.

The late David Graeber is an important figure of anarchist thought and practice. He became involved as an activist in the alter-globalization movements in 1999 and gained notoriety a few years later as part of the 'Occupy Wall Street movement' (Evans Moses 2011). Among his academic activity, always aligned with his political roles, he gave a fresh insight into Anarchist theory, especially with 2004's *Fragments of an Anarchist Anthropology* and built an enlightening historical reading with 2021's *The Dawn of Everything: A New History of Humanity* (Sartwell 2024). New Yorker, from a working- class family, he would become an Anthropologist and would dedicate his fieldwork to the island of Madagascar, on the South-East African coast (ibidem), that defined his early contributions to anthropology and how his work would come to be framed in this debate.

In Graeber's article "Fetishism as social creativity or, Fetishes are gods in the process of construction", Graeber deals with the fetishism of the Malagasy people (from Madagascar) in relation to the ethnographic tradition and establishes a parallel with social creativity as defined by Marx (Graeber 2005). The thesis that this work defends is to consider the fetish as a god in construction. When discussing the fetishism of one of the Merina, Graeber considers that,

"Of course, it would also be going too far to say that the fetishistic view is simply true: Lunkanka cannot really tie anyone's intestines into knots; Ravololona cannot really prevent hail from falling on anyone's crops. As I have remarked elsewhere, ultimately, we are probably just dealing here with the paradox of power, power being something which exists only if other people think it does; a paradox that I have also argued lies also at the core of magic, which always seems to be surrounded by an aura of fraud, showmanship, and chicanery. But one could argue it is not just the paradox of power. It is also the paradox of creativity".

(Graeber 2005, p. 430)

Graeber's field experience with the Merina people led him to encounter certain figures, as such entities that are mentioned above, as Lukanka and Ravolona. His interpretation of the power asserted to such figures has led him to believe that they are projections that gain their strength only if others believe in it. Such paradox of power and the paradox of creativity, that Graeber also identifies (as the magic of the showmanship serves as the projection of the

creativity of the subject), are inspired by his reading of Marx (ibidem). According to the author, these shackles of tradition are restraining the true liberation of these individuals and serving as a self- alienation to the power that, in its core, should belong to them (ibidem).

The critique elaborated by the anthropologist Marcio Goldman and taken up by Viveiros de Castro in 2015 accuses this overlapping of Marxist thought on the Merina people (Viveiros de Castro 2015). In other words, the critical reading on the theoretical construction of Graeber is "somewhat misplaced", since this interpretation would be in disagreement with the very will of the Merina people. Viveiros de Castro accuses, first, a reduction of the fetishism to the "will to believe" (op. cit., p. 13). As a second point, Viveiros de Castro holds that Graeber's research can only result in strengthening his own ontological framework and not, as it should be desired, to the survey of new problems (op. cit., pp. 13-14).

Graeber's answer eloquently frames the problem from the perspective of anthropological tradition. According to the author, "the epistemological relationship has not advanced" since the first considerations on witchcraft in the 1930's (Graeber 2015, pp. 2-3). The contradiction given in the accounts of the world- view of the anthropologist and the native were avoided by the arrangement of society itself (ibidem). Graeber's aim with his article on the fetishes of the Malagasy would be, exactly, to bring back these considerations to anthropology, using the ethnographic work to problematize Marxist's theoretical categories (op. cit., p. 5). Ultimately, argues the author, his epistemological position leads him to accept the contradiction "as a form of reality" capable of teaching us "something unexpected about humans everywhere" (op. cit., p. 5). By his perspective, his paper wouldn't suffer from a lack of problematization of his assumptions but, on the contrary, by problematizing "a little too much" (op. cit., p. 6).

Graeber sets himself and his work as a clear opponent to anthropology's 'ontological turn'. The movement formalized by Viveiros de Castro, Holbraad, Pedersen and others draws multiple considerations of world- views defined as ontologies that are seen by Graeber as forms of idealism (Graeber 2015, pp. 3, 21, 23). This debate gets more defined by the philosophical and political considerations that emerge in the arguments.

2.2.3 The Ontological Turn debate: Epistemologies, Ontologies and Anarchies

Roy Bashkar, philosopher of science and political activist, died in 2014 at the age of 70. In his obituary, written by his former student and friend David Graeber, the touchstone of his philosophy is quickly identified by his student: the epistemic fallacy (Graeber 2014). The question "does the world exist?" is sometimes treated as "how can it be proved that the world exists?" or even "is it possible for me to have definitive knowledge about this world?". It implies a false premise, according to this reading: if a world exists, in fact, it would therefore be possible to obtain from it an absolute or comprehensive knowledge (Graeber 2014, Graeber 2015, p. 24).

That is, reality, for Bashkar and Graeber, means exactly what we cannot know completely, what can never be carried out by theoretical definitions. It is from this position that most contemporary philosophical positions are considered as variations of the epistemic fallacy. Positivism, which aims at a complete knowledge of reality, was especially targeted by Bhaskar (Graeber 2014).

Bhaskar's *A Realist Theory of Science* from 1978 applies the transcendental Kantian method to elaborate on the conditions of possibility of contemporary science, defining an ontology of depth (Elver- Vass 2006). Bashkar's account of reality is then stratified in three distinct domains, which operate from a principle of emergency (ibidem).

In contrast to Bhaskar's 'critical realism' is the 'epistemological anarchy', as defined by Paul Feyerabend in a book published in 1975, *Against Method* (Feyerabend 1975). Graeber recounts how Bhaskar found this book "simply wonderful" on his bookshelf to offer to the young Graeber, although Bhaskar "totally disagreed" with Feyerabend's work (Graeber 2015, p. 26). According to Feyerabend's 'counter-method', any problem- solving method is validated, "anything goes" in scientific research⁵⁷ (Feyerabend 1975, p. 28). Against the scholastic tradition, Feyerabend argues that an "initial play activity is an essential prerequisite to the final act of understanding" (op. cit., p. 26). Feyerabend suggested that philosophers of science should be receptive to ideas from the most disparate places, from the most distant domains and insisted that this would be the only way by which epistemology could be approached (ibidem).

For Graeber, the strongest idea that emerged from the work of Feyerabend was the thesis of incommensurability. Both in social theory and contemporary political practice, the idea of an incommensurable perspective has been incorporated as part of reality (Graeber 2015, p. 26). However, accepting such an incommensurability is compatible with the definition of reality as formulated by Bhaskar (Graeber 2015, pp. 26-27). According to Graeber's statement of critical realism, these different incommensurable perspectives can be equally right and only by anchoring values can we discuss if they are actually true or not (op. cit., p. 27). According to the author it's in this work of distinction and assertion of facts and values that is characterized the proposal of the critical realism (ibidem). It's in this context that the perspectivism associated with the proposals of the 'ontological turn' are associated with an 'epistemic fallacy', because they want to ascertain, according to Graeber, a "transcendental point of view" which doesn't make sense (op. cit., p. 26).

On the other hand, the considerations on ontology and epistemology carried out by the 'ontological turn' are anchored in ethnographic practice. The proposal ends up being defined in multiple forms but affirm this sense, as the previous references to Strathern and Wagner show. Viveiros de Castro defines the movement in 2015 as "the ontological turning of the epistemological screw", corresponding to a methodological tuning into ethnographic practice (Viveiros de Castro 2015, p. 10). In 2014 Holbraad, Pedersen and Viveiros de Castro

⁵⁷ According to Feyerabend, by his own words: "There is only *one* [method] that can be defended under *all* circumstances and in *all* stages of human development. It is the principle: *anything goes*" (Feyerabend 1975, p. 28).

offered the operative definition of this ontology as “the comparative, ethnographically grounded transcendental deduction of Being” (Holbraad Pedersen Viveiros de Castro 2014). In a more radical way, in 2015, Viveiros de Castro defined ontology as an “anti-epistemological, counter-cultural and philosophical war machine” (Viveiros de Castro 2015, p. 2).

In contrast, Feyerabend was not aligned in an anti-epistemological movement, but rather an “anarchist epistemology”, also called as “dadaist” in his work (Feyerabend 1975)⁵⁸. Is it conceivable that the anthropology of the ‘ontological turn’ can be considered in similar terms, as an anarchist antechamber of an epistemology of science? By the experimental nature of the ethnographic exercise, closer to the “other”, the ‘ontological turn’ does not deny the possibility of knowing. But, unlike the work of Feyerabend, it is not centered on building knowledge in the usual anthropological sense. The ontological turn takes the form of a “war machine” in the political battle for the possibility of “another” anthropology, which does not need to be repeatedly concerned with its “scientificity”. In the words of Viveiros de Castro,

“I believe that anthropology has always been too obsessed with the ‘Science’, not only in relation to itself - whether it is or not, can or should be a science -, but above all, and this is the real problem, in relation to the conceptions of the peoples it studies: either to disqualify them as an error, dream, illusion, and then explain scientifically how and why the ‘others’ aren’t able to explain (themselves) scientifically; either to promote them as more or less homogeneous to science, fruits of a same desire to know consubstantial to humanity. (...) The image of science, this kind of gold standard of thought, is not, however, the only field, nor necessarily the best, in which we can relate to the intellectual activity of peoples that are foreign to the Western tradition⁵⁹”

(Viveiros de Castro 2002, p. 127)

⁵⁸ As Feyerabend reports, the ‘counter-method’ was written from the challenge launched at a party by a friend also philosopher of science, Imre Lakatos (Feyerabend 1975, p. vii). Unfortunately, Lakatos never managed to articulate a response due to his premature passing. That is, the whole framework of epistemological references must be understood as the first part of a correspondence established with Lakatos, in principle inclined to defend the rationalist Popperian basis of a ‘by the method’.

⁵⁹ My own translation from Portuguese. According to the original quote: “Cuido que a antropologia sempre andou demasiado obcecada com a ‘Ciência’, não só em relação a si mesma — se ela é ou não, pode ou não, deve ou não ser uma ciência —, como sobretudo, e este é o real problema, em relação às concepções dos povos que estuda: seja para desqualificá-las como erro, sonho, ilusão, e em seguida explicar cientificamente como e por que os ‘outros’ não conseguem (se) explicar cientificamente; seja para promovê-las como mais ou menos homogêneas à ciência, frutos de uma mesma vontade de saber consubstancial à humanidade. Assim a similaridade de Horton, assim a ciência do concreto de Lévi-Strauss (Latour 1991:133-134). A imagem da ciência, essa espécie de padrão-ouro do pensamento, não é, porém, o único terreno, nem necessariamente o melhor, em que podemos nos relacionar com a atividade intelectual dos povos estrangeiros à tradição ocidental” (Viveiros de Castro 2002, p. 127).

Liberated from the straitjacket of the relation with the "gold standard" of thought, Viveiros de Castro accuses the collapse of the singular 'ontology' and states that this allows a "post-plural consciousness" of the "performative condition of ontological anarchy" (Viveiros de Castro 2015, p. 9). Importantly, the author admits the political nature of this relational nature with these other peoples: "Ontological differences (...) are political because they imply a situation of war – not a war of *words*, as per the linguistic turn, but an ongoing war of *worlds*" (ibidem). In provocation to Graeber, the author from Rio de Janeiro adds, "not all political anarchists accept ontological anarchy" (ibidem).

Graeber gave a fundamental contribution to anarchist theory through his book *Fragments of an anarchist anthropology*⁶⁰ (Graeber 2004). Although, he is not part of an "ontological anarchy" by the "moral dangers" that it implies (Graeber 2015, p. 25). Accepting such a move to "ontological anarchy" would need a good anchor in reality, warns Graeber from the words of the founder of such concept, Hakim Bey: The attitude of "everything goes" in relation to the nature of reality without a commitment to realism collapses into a dogmatic and conservative movement, an "everything stays" (Graeber 2015, pp. 25-26). Through Graeber's reading, theoretical and political change needs the commitment to the single reality.

2.2.4 Looking straight ahead, looking down, looking up

Both anthropologists that have given shape to the debate on the 'ontological turn', David Graeber and Eduardo Viveiros de Castro, are vocal in their political activism, in the way that the political dimension is intertwined in their becoming- anthropologists. The anthropologists of the 'ontological turn', like Viveiros de Castro, are focused on the "powers of the weak" and their connections, in revealing these connections between what they define as 'ontology', as power of differences, and what is politics, as difference of powers⁶¹. Graeber has academic interests in the theory of value and social organization. We find in his academic and political activity this same coherence between theory and practice, which with Graeber is denoted by his dedication as an anarchist in a critical and denouncing intellectual activity, with a sharp political awareness⁶².

Graeber, from his research in Madagascar, believes in a situation of dual power, as he experienced during his doctoral research on the island (Evans Moses 2011). In certain rural areas there was no tax collection, neither the police nor the law acted. The Malagasy political ecology acted in agreement with the power of a state, even if its presence was revealed as a scam (ibidem.). From this first contact, there was an understanding of the nature of anarchism

⁶⁰ Importantly, Graeber updated the definition of anarchy given by Piotr Kropotkin as a concept of the domain of ethics in relation to revolutionary practice (Graeber 2004, p. 69).

⁶¹ The collective definition of the 'ontological turn' over their considerations on ontology and politics becomes clearer in *The Politics of Ontology: Anthropological Positions* (Holbraad et. al. 2014).

⁶² Graeber himself offers a short genealogy of the global actions of the "new anarchists" (Graeber 2002).

that was reflected in the later reflections of Graeber⁶³. Graeber believes that his time in Madagascar had allowed him to experience his insertion into a "semi-anarchist enclave", but it was his involvement in anarchist circles in the UK years later that allowed him to have a deeper understanding of the political nature of his experience (Evans Moses 2011). From this practical perspective, the common commitment to the same goals, based on shared ideals, is what guides the decision-making process by consensus⁶⁴. Dependent on a "certain generosity", the politically engaged people that share the political circles of Graeber, look straight ahead, meeting the other's gaze and seek common grounds, finding the real point of disagreement to build such consensus. When Graeber considers the relation that the 'ontological turn' ethnographers establish with their others, it shakes his basic assumptions of the nature of his philosophical understanding of the nature of reality. As he expresses, such gaze that Viveiros de Castro establishes with his informants is an "attempt to give life to an alien reality that unsettles our basic assumptions about what could exist. Insofar as there is a *war* going on here, it is a *war* the ethnographer *should never win*" ⁶⁵(Graeber 2015, p. 22). The notion of an ongoing war is framed by the author as enmeshed in his relation to his informants, to whom he must question the concepts and figures that are part of their symbolic world. This political experience, that is part of his heuristic process as a researcher, is well synchronized with its philosophical alignment with critical realism, as it was explored before. Quite differently, to Viveiros de Castro and the 'ontologic turn' anthropologists, their informants are the ones that relay meaning to an ongoing war, as a war among different *worlds*.

At the genesis of the 'ontological turn', Viveiros de Castro identifies three essential stimuli: The crisis of representation in anthropology, the developments in the field of STS and the ecocide of our planet, in connection with the global economic crisis (Viveiros de Castro 2015, pp. 4-6). The ecological crisis is noted with the awareness of the impact of climate change and its synchronization with the rhythms of Integrated World Capitalism. In a book first published in 2014, Viveiros de Castro together with his partner, the philosopher Deborah Danowsky, elaborate on fears and ends (Danowski Viveiros de Castro 2017). In this work the rise of philosophical and literary monsters on the end of the world are portrayed, with a special place given to the myths of the Amerindian cosmogenies. The progressive destruction of these peoples' habitats translates a feeling of pessimistic urgency, which is embedded in metaphysical eschatologies, by which the whites and their "development" programs are targeted (Danowski Viveiros de Castro 2017, pp. 104-10). According to Viveiros de Castro, soon we will all be Amerindians: "Let's see what they can teach us in apocalyptic matters"

⁶³ Notoriously, as before mentioned, through Graeber's contribution to anarchist theory (Graeber 2004).

⁶⁴ As Graeber puts it: "(...) It would be easy enough to take the same approach as activists and start by grounding it all in some commitment to action; that would have to be some notion that we're all pursuing the same thing, call it truth, knowledge, understanding, whatever you want. If so, a certain generosity would be required, similar to that of consensus process: at the very least, if you disagree with someone, you would want to make the most charitable conceivable interpretation of their argument to be able to see what the real point of disagreement is". (Graeber in Evans Moses 2011);

⁶⁵ My italics.

⁶⁶(Viveiros de Castro 2015, p. 6). It's from this proximity to the indigenous territory that the author's political agency is developed.

"We, the whites here sitting on the steps of the City Hall of Rio de Janeiro, on April 20, 2016, we feel indigenous. We do not feel like citizens, we do not see ourselves as part of a population that is subject to a state that has never represented us, and which always took with one hand what he pretended to give with the other. We the "whites" are here, as well as several other indigenous peoples living in Brazil: peasants, riverside peoples, fishermen, *caiçaras*, *quilombolas*, *sertanejos*, *caboclos*, *curibocas*, blacks and *pardos* residents of the shantytowns that cover this country. All these are "indigenous", because they feel connected to a place, to a piece of land - no matter how small or worse that land is, the size of the floor area of a shack or a backyard garden - and to a community, much more than citizens of a Big Brazil that only contribute to the size of the bank accounts of the power-owners⁶⁷"

(Viveiros de Castro 2017, p. 8)

In this public lecture entitled *Os Involuntários da Pátria* ('The Involuntary people of the Fatherland'), the "whites" sitting there next to the City Hall of Rio de Janeiro "feel themselves" indigenous. What does that mean? Viveiros de Castro explains: "Being indigenous is to have as a primary reference the relationship with the place in which you were born or where you settled to make your life" ⁶⁸(Viveiros de Castro 2017, p. 4). Being part of a "people", inserted in a community, stands in contrast to being part of a "population" of a state. "The indigenous man *looks down* to the Earth which is immanent to his world- view. He draws his strength from the ground. The citizen *looks up*, to the incarnate Spirit in the form of a transcendent State, from which he receives his rights from high above⁶⁹" (ibidem).

⁶⁶ My own translation from Portuguese.

⁶⁷ My own translation. According to the original quote in Portuguese: "Nós, os brancos que aqui estamos sentados na escadaria da Câmara Municipal do Rio de Janeiro, em 20 de Abril de 2016, nós nos sentimos indígenas. Não nos sentimos cidadãos, não nos vemos como parte duma população súdita de um Estado que nunca nos representou, e que sempre tirou com uma mão o que fingia dar com a outra. Nós os "brancos" que aqui estamos, bem como diversos outros povos indígenas que vivem no Brasil: camponeses, ribeirinhos, pescadores, *caiçaras*, *quilombolas*, *sertanejos*, *caboclos*, *curibocas*, negros e "pardos" moradores das favelas que cobrem este país. Todos esses são "indígenas", porque se sentem ligados a um lugar, a um pedaço de terra – por menor ou pior que seja essa terra, do tamanho do chão de um barraco ou de uma horta de fundo de quintal – e a uma comunidade, muito mais que cidadãos de um Brasil Grande que só engradece o tamanho das contas bancárias dos donos do poder" (Viveiros de Castro 2017, p. 8).

⁶⁸ My own translation.

⁶⁹ My own translation. According to the original quote: "'O indígena olha para baixo, para a Terra a que é imanente; ele tira a sua força do chão. O cidadão olha para cima, para o Espírito encarnado sob a forma de um Estado transcendente; ele recebe os seus direitos do alto'" (Viveiros de Castro 2017, p. 4).

In Viveiros de Castro's book on the end of the world written with Danowski, the authors find complementarity with the philosophy of Bruno Latour to find an understanding of contemporary frictions among worlds. They define, building up from Latour the clash between two different categories of people. On one hand, the *Earthlings*, *Terriens*, or *Earthbound people*: "The people who are destined to the Earth, who are bound to the Earth, who find themselves under the *spell* of the Earth..."⁷⁰ (Viveiros de Castro Danowski 2017, p. 129). The *spell* that is mentioned by the authors amounts to the intrusive presence of *Gaia* linking all living beings⁷¹.

Looking up, as subjects to a state that does not represent them, are the citizens, as Viveiros de Castro proclaimed on the staircase of the City Hall. Referred also simply as 'Humans', those capable of living in a unified and indifferent Nature. The essential tension over fears and ends takes the form of a "war of worlds" that opposes these "Humans" to the "Earthlings" (Viveiros de Castro Danowski 2017, p. 126;).

The 'ontological turn', as a professional movement at the heart of anthropology, translates this war of worlds into a politically committed academic program. According to Viveiros de Castro,

"We should move from the epistemological critique of ethnographic authority to the ontological determination of ethnographic alterity, the elucidation of the terms of the 'ontological self-determination of the other' (...)"

(Viveiros de Castro 2015, p. 4)

Ethnography, as it has been usually employed, by the author's diagnosis, instead of allowing for us to get to know the other's world, has been used to set boundaries of what can be known and said about this other world- view. The 'ontological turn' was set to reverse this state of affairs in the same image of what the Amerindian perspectivism had done before. The problem of ethnographic authority was taken by "ethnoanthropology, or indigenous metaphysics, of *alterity*" ⁷² (Viveiros de Castro 2015, p. 10). By this light, anthropology is directed to the encounter with the other and with his or her world- view, or, as these anthropologists formulate, towards their ontological self-determination.

Graeber, looking forward into the gaze of his informants, is disturbed by this statement into the commitment to "ontological self-determination" of these peoples as an alter-

⁷⁰ My own translation. From the original Portuguese, this quote reads that the Earthlings are "o povo que se destina à Terra, que está preso à Terra, que se acha enfeitado pela Terra..." (Viveiros de Castro Danowski 2017, p. 129).

⁷¹ These considerations are built from the writings and concepts put forward by the late Bruno Latour, as previously noted. But, also, considering the Gaia hypothesis, also as a heritage of the now classic conceptualizations by James Lovelock and Lynn Margulis (Viveiros de Castro Danowski 2017, p. 122).

⁷² My own translation from Portuguese.

political authority. "Some people like deep boxes," says the author (Graeber 2015, p. 34). "But by the same criterion, one must respect the wishes of those who wish their boxes to be less deep or who do not wish to be placed in any box" (ibidem). It becomes apparent that his philosophical commitment to critical realism doesn't allow Graeber to *look down*, in the sense of gaining density in his understanding on how the Malagasy people that he was studying make sense of their world, on how, for example, does Lukanka might exert its powers. The world-view of the Malagasy people is then compromised. The rendering of the world-view of the Amerindians is something that Viveiros de Castro and Danowski made clearer,

"What we would call the natural world, or "world" in general, is for the Amazonian peoples a multiplicity of intricately connected multiplicities. The animal species and others are conceived as many other types of "people" or "peoples", that is, as political entities. It is not "the jaguar" that is human; it is the individual jaguars who acquire a subjective dimension (more or less relevant, according to the practical context of the interaction with them) when perceived as having "behind them" a society, a collective political alterity".

(Viveiros de Castro Danowski 2017, pp. 97-98)

The before mentioned step that Viveiros de Castro took, to take seriously the world-view of his informants, is now revealed to give meaning to an Amazonian multiplicity. As Graeber and other anthropologists avoid ontological "deep boxes" they won't relate to this definition of animal species as political entities, that take a role in the indigenous society. Therefore, the possibility of relating to the informants' work-views sets different approaches to anthropology, serving as a touchstone to the debate established between Viveiros de Castro and Graeber. Viveiros de Castro's 2015 article asks the question to Graeber and colleagues in its title: "Who is afraid of the ontological wolf?" (Viveiros de Castro 2015). This is an unequivocal reference to the second chapter of *Mille Plateaux* (in English 'A Thousand Plateaus') by Deleuze and Guattari (Deleuze Guattari 1980, pp. 38-52). While the first volume of *Capitalism and Schizophrenia*, *Anti-Oedipus*, defends a monistic conception of desire production, the second volume, *Mille Plateaux*, advances in the direction of a post-pluralistic theory of multiplicities. The latter ends up having a "liberating effect" on anthropology, serving as an escape line between the old dualisms. The chapter that evokes multiplicity from the wolf pack is called "1914 - Un seul ou plusieurs loups" (in English: '1914: One or Several Wolves?' – op. cit., p. 38). In these pages is evoked the childhood dream of a patient of Sigmund Freud, one of his most famous clinical cases, referred to by the pseudonym 'Man of the Wolves'. The 'Wolf Man' dreams of wolves. How many? After his second episode classified as psychotic, he identifies five or six wolves in his dream and draws five. Freud interprets, associates and inevitably does a reduction⁷³. The pack, represented by wolves in the plural, has no place in Freud's

⁷³ As Deleuze and Guattari put the issue (translation by Brian Massumi): "The wolves never had a chance to get away and save their pack: it was already decided from the very beginning that animals could serve only to represent coitus between parents, or, conversely, be represented by coitus between parents. Freud obviously

psychoanalysis.

Anthropology also suffers from the symptom that Freud referred to as a narcissistic correlation. As the words shared between anthropologist Bruce Albert and shaman Davi Kopenawa expressed it, “[The whites] sleep and in their dreams, they only see what surrounds them during the day. They do not really know how to dream because the spirits do not carry their images away during their sleep”⁷⁴ (Kopenawa Albert 2010 2013, p. 375). For the shaman the dream is a gateway to access a spiritual reality that makes a world- view come to fruition. Without following these paths to understand the world of the other, one is restrained into just seeing him or herself. As Viveiros de Castro puts it,

“When a shaman shows you a magic arrow extracted from a sick man, a medium gets possessed by a god, a sorcerer laboriously constructs a voodoo doll, we only see one thing: Society (belief, power, fetishism). In other words, we only see *ourselves* “.

(Viveiros de Castro 2015, p. 12)

The confrontation between the single reality and radical alterity is clearly unequal in the field of epistemology. The imposition of categories to organize the anthropological reading of reality (belief, power, fetishism) can shy away the researcher to be able to *look down* to the earth where the sense might present itself to that world. In the nature of multiplicities and their elements, there is a Deleuzian figure associated from botany, that of the rhizome. The aforementioned "liberating effect" of multiplicity in anthropology is felt, says Viveiros de Castro, both in the work of Wagner and in that of Strathern. Rhizomatic movements can be followed, mapped, but depend upon another movement to be totalized, understood. Then comes this other figure, this one closer to the "gold standard" of science, the tree. By the words of Viveiros de Castro,

knows nothing about the fascination exerted by wolves and the meaning of their silent call, the call to become-wolf. Wolves watch, intently watch, the dreaming child; it is so much more reassuring to tell oneself that the dream produced a reversal and that it is really the child who sees dogs or parents in the act of making love. Freud only knows the Oedipalized wolf or dog, the castrated-castrating daddy-wolf, the dog in the kennel, the analyst's bow-wow" (Deleuze Guattari 1987, pp. 28-29). In the original quote in French language: "*Les loups n'avaient aucune chance de s'en tirer, de sauver leur meute: on a décidé dès le début que les animaux ne pouvaient servir qu'à représenter un coït entre parents, ou l'inverse, à être représentés par un tel coït. Manifestement Freud ignore tout de la fascination exercée par les loups, l'appel à devenir loup. Des loups observent et fixent l'enfant qui rêve; c'est tellement plus rassurant de se dire que le rêve a produit une inversion, et que c'est l'enfant qui regarde les chiens ou des parents en train de faire l'amour. Freud ne connaît le loup ou le chien qu'oedipianisé, le loup-papa castré castrateur, le chien à la niche, le Oua-Oua du psychanaliste*" (Deleuze Guattari 1980, p. 41).

⁷⁴ Translation by Alison Dundy. In the original french quote: "Ils ne savent pas vraiment rêver car, durant leur sommeil, les esprits n'emportent pas leur image. Nous, en revanche, nous sommes capables de rêver très loin" (Kopenawa Albert 2010, p. 496).

"Hence when Deleuze and Guattari distinguish rhizomatic maps from arborescent tracings, they observe that the maps are constantly being totalized, unified and stabilized by the tracings, which are in turn subject to all sorts of anarchic deformations induced by rhizomatic processes. Yet, at the end of the day, "the tracing should always be put back on the map. This operation and the previous one are not at all symmetrical" (Deleuze Guattari 1987: 14)"⁷⁵.

(Viveiros de Castro 2009, pp. 119-120)

There is a rhizomatic multiplicity, that might present itself as invisible, even if presented as sensible, that collapses in the movement of reduction. Recovering the "post-pluralistic" theory of the multiples initiated by Deleuze and Guattari, there is another duality through which it is worth passing: the mass and the pack⁷⁶. While the mass is organized and untied in a hierarchical direction, the pack implies the impossibility of a fixed hierarchy and, by the words of Deleuze and Guattari, imply a variety of "lines of deterritorialization". From the short story of Franz Kafka *Jackals and Arabs*, Deleuze and Guattari intensify this duality (Deleuze Guattari 1980, pp. 50-51). The Arabs are an extensive mass, organized, finally "territorialized" and spread throughout the desert. The jackals are crazy dogs, able to follow escape lines without precise guidance, such as the so-called Brownian movements, stochastic patterns of pollen grains in aqueous solution, and enter deep into desert surfaces.

Entering certain places, delimited by its geographies, can entail for a field

⁷⁵ Translated from French by Peter Skafish. In the original French quote from Viveiros de Castro: "quand ils distinguent les cartes rhizomatiques des calques arborescents, Deleuze et Guattari observent que les cartes sont constamment en train d'être totalisées, unifiées et stabilisées par les calques, qui à leur tour sont soumis à toutes sortes de déformations anarchiques induites par le processus rhizomatique. Mais en fin de compte, "il faut toujours reporter le calque sur la carte. Et cette opération n'est pas du tout symétrique de la précédente" (D.G. 1980:21)" (Viveiros de Castro 2009, p. 90).

⁷⁶ This mass/pack duality is inspired in the work of the German writer Elias Canetti, as it is seen in this quote from Deleuze and Guattari (translated by Brian Massumi): "Elias Canetti distinguishes between two types of multiplicity that are sometimes opposed but at other times interpenetrate: mass ("crowd") multiplicities and pack multiplicities. Among the characteristics of a mass, in Canetti's sense, we should note large quantity, divisibility and equality of the members, concentration, sociability of the aggregate as a whole, one-way hierarchy, organization of territoriality or territorialization, and emission of signs. Among the characteristics of a pack are small or restricted numbers, dispersion, no de-composable variable distances, qualitative metamorphoses, inequalities as remainders or crossings, impossibility of a fixed totalization or hierarchization, a Brownian variability in directions, lines of deterritorialization, and projection of particles". (Deleuze Guattari 1987, p. 33). In the original quote in French: "*Elias Canetti distingue deux types de multiplicité qui tantôt s'opposent et tantôt se pénètrent: de masse et de meute. Parmi les caractères de masse, au sens de Canetti, il faudrait noter la grande quantité, la divisibilité et l'égalité des membres, la concentration, la sociabilité de l'ensemble, l'unicité de la direction hiérarchique, l'organisation de territorialité ou de territorialisation, l'émission de signes. Parmi les caractères de meute, la petitesse ou restriction du nombre, la dispersion, les distances variables indécomposables, les métamorphoses qualitatives, les inégalités comme restes ou franchissements, l'impossibilité d'une totalisation ou d'une hiérarchisation fixes, la variété brownienne des directions, les lignes de déterritorialisation, la projection de particules*". (Deleuze Guattari 1980, p. 46).

anthropologist to enter an ontology of the peoples he is studying. As explored above, the relations between the ethnographic practice and Deleuze and Guattari's formulations, as the dualities between territorialization and deterritorialization, tree and rhizome, the mass and the pack are part of the tensions and potentials marking the 'ontological turn'. Such openness to the world- view of these others has proven transformative, as the political subjectivation of Eduardo Viveiros de Castro shows. To the Anthropological discipline itself, the relation to epistemology is tense. Viveiros de Castro, engaged in a debate, defined ontology as an "anti-epistemological, counter-cultural and philosophical war machine" (Viveiros de Castro 2015, p. 2). Still, as the 'ontological turn' anthropologists look down to the contingent world- views that emanate with these others it doesn't need to deny its epistemological role. The "philosophical war machine" described by Viveiros de Castro can be considered as part of the proper epistemology of the discipline, as using their deep ontological regards to make sense of the place of those specific peoples in the world. As Holbraad and Pedersen have expressed: "[The 'ontological turn'] is a methodological project that poses ontological questions to solve epistemological problems. Only, (...), it so happens that epistemology in Anthropology has to be about ontology, too" (Holbraad Pedersen 2017, p. 5).

In conclusion, ontology, as defined by these anthropologists, does not need to constrain us, if we approach it as a way of thinking the world we have *from below*. The anthropological philosophy that takes shape with this 'ontological turn' gives an immense philosophical breath to ethnographic practice. In this sense, in relation to the objectives of this work, many scientists or philosophers, in their extractivist, "fast" practices, might not necessarily be allowing the possibility to enter into relation to the world- views of their participants or informants, much less accepting certain contrasting viewpoints, definitions of social or political views that differ from their own. Considering an approach to 'field philosophy' that takes ethnography not just to identify certain viewpoints, but to put them in relation and make sense of a concrete world- view from a certain place, in the image of what the 'ontological turn' anthropologists put in practice, remains a possibility.

2.3 Definition of field philosophy in this research

To think and to put in practice a philosophy that is situated is to enter a field that is problematic, but that can open its research process to multiple other voices. By considering Christiane Volaire's *Pour une Philosophie de terrain* we found a clear historical relation between philosophical research and the empirical world of fieldwork that is substantiated with a pantheon of authors and precious insights from this engaged researcher (Vollaire 2017). The challenges presented to the ethical positioning of the researcher of 'field philosophy' among the marginals serve as guideline and reflection. As an example, the ethical triple refusal (of objectivation, of projection, of identification – op. cit., p. 36) when in relation with another is perceived in synchronicity with the anthropological practice of 'continuity of procedures' that considers at the same level the problem under anthropological research and the natives' problems (Viveiros de

Castro 2002, pp. 116-117). By the advice of both Vollaire and Viveiros de Castro, the researcher should abstain from having an overlapping position and be open to enter the relational fray to other problems and solutions and situated inferences that come with the local world-view.

The specific regard of a philosophical anthropology formalized by the movement named as 'ontological turn', that wants to escape the crisis of representation and psychocognitivism that crosses the discipline proved useful as well to think a 'field philosophy'. Being an anthropological project that is presented as '*philosophy with people in*' is a close relative of what 'field philosophy' proposes itself to accomplish. What comes to differentiate the 'ontological turn', through the debate and inspired by Wagner's first move, is a radical positioning as anti-epistemological, devoted solely to entering the world of these peoples with whom these anthropologists parlay with. Although, following the anthropologists that are set as references to the 'ontological turn': Wagner, Viveiros de Castro and Strathern – in all of them there is a central role given to the relationship to their others. More than the dreaded word ontology, it becomes clear on how this turn is political and philosophical. By following the 'ontological turn' debate we find that Viveiros de Castro positioning led him to a clear proximity to the Amerindian political subjectivation. Moreover, again inspired by Wagner's move, we see how this anthropological perspectivism became valuable to the philosophical work of defining cannibal metaphysics and facing the fears and the ends of *worlds* (Viveiros de Castro 2009, Danowski Viveiros de Castro 2017).

'Field philosophy' is claimed in this research as an experimental approach to understand social participation in scientific research grounded in a specific territory at the social margins. This research happened in two phases. First, a long immersion in the physical territory of 2.º Torrão, in Almada, Portugal was accompanied with tools of ethnographic practice, as the empirical ground to understand the world view of this place and its people. This happened through the development of an ethnological adhesion to this territory that started in 2016, taking a research agency that is related to communication research theory (Le Marec, 2002) and 'grounded theory' (Soulet 2010). Overall, I took a role of ethnographer, employing tools as classically described by Marcel Mauss, through participative observation and using my descriptions in a personal journal (Mauss, 1967). This role served most of all to position myself and develop my intersubjective relations to grow in my role of a situated researcher. My personal descriptions and photographs, the reading and re-reading of my journals, all substantiated the entering into a world of inter-connectedness. Specifically, in this phase, I was inspired by considerations of 'grounded theory', as using a temporary suspension of existing theoretical frames, a progressive definition of the object of research, a circular interaction between collection and analysis of empirical data and the analysis of data being favorable to an overture to the emergence of facts (Soulet 2010, pp. 11-13). This reading of reality favored a gradual definition of a field, in its circumscribed spatial and temporal unity, that allowed the emergence of a continuity of knowledges, as formalized by Le Marec (Le Marec 2002, pp. 3-4).

In a second phase, this research developed through the realization of interviews with other situated researchers that arrived at the territory of the precarious settlement. These were

semi-structured interviews, with a protocol that defined some possible questions to be explored⁷⁷. As I was grounded in this place, inhabitants would refer me to collaborate with new researchers that would arrive at this place. Through the informality of collaboration and exchange, the fulfillment of these interviews had a definite place in the philosophical report I developed with this territory. This protocol was semi- directive and had as a central piece a grid, which the researchers being interviewed were asked to fill. This grid divided the research process in steps and presented a gradient of power: from citizen control over that process to total control by the researcher. Inspired by the 'Ladder of citizen participation' by Arnstein (Chapter 3 – Figure B, Arnstein 1969), this step of the interview served as a provocation. More than the results, more than analyzing the marks that the researchers would put on paper, I was interested in the exchange that ensued. The moment of the interview made possible the exchange of perspectives, references, political standpoints that were of fundamental importance to this work. Overall, this 'field philosophy' approach entailed a total of 15 interviews with 21 researchers, between November 2019 and January 2021. These included researchers from the natural sciences, human and social sciences and from artistic fields.

Likewise, other interviews with locals allowed the intersubjectivity to take shape and my understanding of what I could find *looking down*, what emanated from the world- views that this territory has within its borders. To this regard, a total of 12 interviews to locals were framed by the citizen project 'New Stakeholders – Sciences' between November 2015 and April 2016, inquiring about the relationship of the inhabitants to the sea, by which I intervened as a mediator. Other interviews were conducted with locals to better grasp world- views. The inquiry was structured as a semi- structured interview and proposed to deal with the definition of the sense of place and belonging, problems and possible solutions connected to the neighborhood and engaged 11 individuals between April 2018 and April, 2021⁷⁸.

⁷⁷ The protocol for these 'field philosophy' interviews can be found on 'Annex 1'.

⁷⁸ The protocol for these semi- directive interviews can also be found on 'Annex 1' at the end of this thesis.

CHAPTER 3

2.º TORRÃO AND ITS SITUATED SCIENTISTS

In the last chapter, we were introduced to ‘field philosophy’. Set as a problematic relation between empirical work and philosophical research, an introduction to this methodology revealed its foundations. Understanding the contemporary relevance of this approach in its proximity to the political margins of society, the work of Christiane Vollaire has shown us how fieldwork has been a part of the history of philosophy. The interview takes a place in the intellectual production of a wide array of philosophers, with a special relevance given to Karl Marx and Michel Foucault, who continue to inspire researchers to this day. In addition, the emergence of a philosophical anthropology, with a movement coined as ‘ontological turn’, has moved the discipline towards an affirmation of its role in using ethnography as a form to parlay with the world- views of the peoples it works with. The work of Eduardo Viveiros de Castro with ‘Amerindian perspectivism’ and its philosophical- inspired connections has proven encouraging to a younger generation of anthropologists. The debate over this ‘ontological turn’ was specially placed to flesh out the tensions and positions that such an approach assumes. The experimental methodology here proposed used a first period of field ethnography to reflect a needed intersubjectivity in the relations with the people of the suburb of Lisbon where this research is placed. A second phase of inquiry involved interviews with situated scientists to reflect with them about situated science and what role social participation and the inhabitants of 2.º Torrão have in their research practice.

3.1 Getting to know the community of 2.º Torrão

The territory where 2.º Torrão is inserted, in-between the river and the sea, has an identity that has been defined by the mobility that the Tagus’ Estuary offers (Leal 2014). Following the long Tagus River as it enters the large Estuary, we find on its south margins the Trafaria region, where 2.º Torrão and other precarious settlements are inserted. On the other opposing margin of the Estuary to the city of Lisbon, this place was defined in the eighteenth century by its fishing activities (op. cit., pp. 59-60). Its opposition of the city of Lisbon, made this place to be considered far away enough to the capital, to be a place where to hold in quarantine newcomers that would arrive by boat or, later in the twentieth century, where to enforce prison to the ones that opposed the dictatorial regime (op. cit., pp. 85-106). This region was, though,

close enough to the capital to be inaugurated still in the nineteenth century as the place for bathing and recreational activities, as the beach became a cultural asset (op. cit., pp. 107-120). The neighborhood of 2.º Torrão has its origins in this setting, established in the 1940's, having probably other settlers inhabiting the same place centuries ago⁷⁹. It has some other neighboring communities that share a common past of striving against the elements, of fishing boats that have to sail to ensure resources, or of the sea that imposes its presence and eats part of the shore. Lively human and ingenious, 2.º Torrão is located just there by the margins of the river mouth of the long Tagus River meeting the Atlantic Ocean.

The contemporaneous development of 2.º Torrão was marked by the presence of fishermen, on the one hand, and by the settlement of inhabitants from the historical *bairros* of Lisbon. The *bairristas* would find solace there during the long summer days and make their tents with whatever possible materials they had access to. Since the 1940s, a structure had started to emerge. A central avenue marked the access to the settlement. A young boy and his friends called it '*Avenida da Torre Alta*', mimicking the name '*Torre Alta*' from Tróia, a known destination for the blooming beach culture. If all the people with money could go to '*Torre Alta*' to spend their summer days, so could we, the ones without money, and enjoy our own '*Torre Alta*'. By affinity, two main clusters of settlers took place: On the east wing, most people were from the Lisbon typical neighborhood of *Alfama*. On the west wing, people originated mostly from the neighborhood of *Mouraria*. These origins weren't exclusive. There were others coming from other historical sites of the metropolitan area, but these rival quarters that mark the geography of central Lisbon had in 2.º Torrão a reflex, reproducing those dividing lines of the city center in the sand of this place.

In the late 1960s, inhabitants that took shelter in the pine forest of 2.º Torrão were facing persecution by the henchman of the owner of that land. For that reason, they had to develop creole technology for building homes. They developed houses that could have a structure but that could be light enough for them to carry them on their back, in case they were found and persecuted by the henchman and his shotgun. These makeshift homes were self-built with walls made of cloth and fabric. "The people who were here spending more time, they started to build their houses with pieces of clothing, with cardboard, with milk packages, with egg packages, and that's how we started building these houses" (Mimi, 2016). Some of these people had to start building these houses from the inside out, building a stronger infrastructure that could be hidden from the outside. Dealing with a tacit agreement of the henchman, they had to hide the consolidation of their homes, using wood to build their houses from within, with the cover-up of a house that appeared not to be more than fabric and cardboard from the outside (Dina Oliveira, 2018). The more privileged among the campers had their own prefabricated tents. The underprivileged "would find three pieces of wood there on the street. With two or three canes, they would build a shed. As it is said, we only needed "love and a hut". And then, on those nights that the cold would come, we would find three or four newspapers and build a wall.

⁷⁹ In the turn of the nineteenth century, a historian who used to visit the area, wrote: "This beach [the one of Trafaria] continues for half a quarter of a league until a small place with 4 or 5 covered sheds, called Torrão" (my translation from Portuguese from Cornide 1800 in Leal 2014, p. 28).

Then you would find cardboard, you would fix another wall. If you found an old sweater, you would make the floor. That's how these houses started to be built" (Mimi, 2016).

April 25th, 1974, served as a milestone for local ecology. As the Portuguese nation had its historical revolution, the construction of houses was no longer just made of wood, but with bricks and concrete and the resident population was transformed, including emigrants and returnees from former Portuguese colonies. Nowadays, a multicultural mix lives there that varies between around 2,000 and 3,000 people⁸⁰, with a strong African presence of Cape Vert, Angola and Guinea-Bissau, together with the first settlers of Portuguese ancestry with their families and some other Roma families.

As with other precarious settlements, this neighborhood is hidden. Flanking 2.º Torrão to the West is a former NATO ship gas station, deactivated for the past decades, remaining only in the memory of some the warships docked just there. To the other extreme of the neighborhood, following the water line to the East, is a megaindustry of cereals, *Silopor*, one of the main entry points, storage and dispatch of food bulk in Portugal⁸¹. The settlement faces the sea waters to the West and is encircled by a pine forest to the East. As one arrives walking from the dunes, from the East, close to the sea, one finds only one street made in straight lines. There, on that street, all houses are considered legal, owned by the workers of Port of Lisbon, a public company. Towards the heart of the neighborhood, the paths become curvilinear with the spontaneity of the past construction.

The administrative territory belongs to Trafaria, Almada, but the neighborhood is not officially in the urban area and has maintained throughout the years several struggles for its structural and social improvements. This negotiation with political and economic interests is tied to cultural prejudices, a lack of social cohesion, and a changing natural environment. Formally, 2.º Torrão remains classified as illegal and is placed mostly on private property, with a boundary set to enclosure the neighborhood by agreement between the property owners and the city (Vindeirinho 2018). The city keeps independent contact with some inhabitants, doing a secretive selection of the construction works to suffer an embargo. Since its inception, there has been tacit control of this territory by the centralized power, either by the kingdom, the state, or

⁸⁰ Data from the 2011 Census only accounted for 1,100 inhabitants and the 2021's specific data for this territory isn't available (2022, Instituto Nacional de Estatística). It is considered that the survey done in 2011 was done poorly, with no attention given to the mediation with the community. Consequently, the real number of inhabitants must have been more than double the official numbers, with the apprehension of the interviewees in accounting for the number of residents in their house. Besides this, considerable fluctuations occurred in the past years. Forced displacement of residents in 2022/23 affected about 400 hundred people, but many newcomers have been arriving and families growing. We find the estimate of the number of inhabitants from the Segundo Torrão Neighborhood Association to be reliable, that set the number of inhabitants in 2022 (before a forced displacement that affected 66 families) as between 2,500 and 3,000 people, counting with a rise of inhabitants in the Summer, when many return from work and study abroad.

⁸¹ The implementation of megaindustries in this territory has been a cause for dissent and mobilization in civic movements for the past decades. For more information see: *Social participation promoted from the implantation of mega projects in small communities: the Trafaria case, Tejo river estuary of Portugal* (Malty 2017).

the city.

Having no access to sanitation services, inhabitants use septic tanks or spill their waste waters directly into the river. Still, there is access to running water in the neighborhood, facilitated by the public power, and part of the population has legal access to electricity. However, most of the families of 2.º Torrão have to improvise their electricity access by directly hooking to the electricity line. This access to electricity is one of the most contentious issues of the community, as the harsh winters and spikes in the electricity consumption that follow compromise the electric grid, delivering blackouts that prolong 2.º Torrão into more severe days and weeks with cold and no electricity. Although the neighborhood has, since 2017, been equipped with a new electricity distribution infrastructure, this equipment remains inactive. The agreement between the state-owned company that is responsible for such matters, the city and the local inhabitant's association is questioned by the inhabitants. The harsh winter blackouts happen year after year. What legitimacy does the agreement with the state have when the electricity keeps going down? The actions of local representatives, independently switching fuses and engaging in moral quarrels, have also created instability and misunderstandings in the past years (Canto do Curió 2022a).

3.2 On the Margins

In contemporary times, the social positioning of places like 2.º Torrão, by the privileged margins of the sea, isn't usual⁸². As the shoreline moved and adapted throughout the decades⁸³, this neighborhood remained in a fixed position, and the water of the sea, which was farther away from the borders of the community, became increasingly closer. Nowadays, there is just a road separating the coastline from this place. This proximity to the order of the Ocean provides this space with a lived experience that is unique to the urban area.

The lived experience of being by the shore of the sea has proven precious to the development of science itself. The inaugural moment of science as a professional occupation was done in the same period when a great empirical experiment was conducted at the margins, between the Ocean and the land. This historical moment was coordinated by Sir William W. Whewell, a nineteenth-century polymath who invented the term "scientist" to differentiate it from the terms in use of "man of science" or "natural philosopher" (Vetter 2011, p. 129). In this period, in July 1835, to be more exact, the same William Whewell was preparing a big experiment in his homeland, England. Floods, at that time, were identified as causes of devastation and mortality.

⁸² The precarious settlements of the urban area of Lisbon that were by the coastline were all resettled by the Portuguese State in the last decades (Ascensão Leal 2019).

⁸³ The lived experience of inhabitants corroborates this perspective of a changing coastline throughout the years. Moreover, with the involvement of Coastal Geology scientists in the neighborhood, that were engaged with stakeholders, who did their fieldwork studying the altimetry of the territory and used maps and satellite data, it was understood that the Tagus' Estuary has such changing morphodynamics (Ponte Lira et al. 2016; Bastos de Andrade 2017). More on this topic can be found on the beginning of the fifth chapter.

He was asserting the domain of reason over tides, as the domain of his “tidology” had developed in the past two years. A 'great tidal experience' over the measurement of tides on a global scale would take place over 650 tidal stations in nine countries (Reidy Foster 2007, p. 1211). This major enterprise involved many people who weren't identified as scientists. This same movement of ascertaining the scientist as a profession involved the discrimination of others who were engaged in the emergence of science but couldn't claim the same social role. They were referred to as “subordinate laborers” (Reidy 2004, p. 32, footnote 7). It was in these conditions, at the margins of the Ocean, that many “subordinate laborers” of science were engaged in observation, monitoring, and registration of the levels of the tides under the control of Whewell.

The life of the community of 2.º Torrão, by the margins of the Tagus Estuary, in the meeting point between the river and the Ocean, has also been punctuated by a special attention given to the tides and to their scientific study⁸⁴. Still, their livelihood is also considered as marginal, in the social sense of the word. Relegated to an existence that differs them from the rest of society is something appreciated by their diminished access to healthcare and other services, transport and public equipment. These strives connect this neighborhood to other places where the same symptom is felt, and social segregation is associated with ostracization. The marginal is associated with stigma, which motivates its segregation.

The term marginality didn't use to have such a depreciatory sense. In the 1920s, the sociologist Robert Park, from the United States, characterized the marginal man as someone in a limbo. Associated to the migrant, the marginal was someone who is in-between cultures, the one he has left behind and this other one that has placed him in a “non-place” ⁸⁵(Park 1928). Inhabiting two different worlds allowed the marginal to reach a different intersubjectivity.

As one grows up in 2.º Torrão, it becomes clear how a color line separates this community from the rest, in similar terms to the lived experience of another American sociologist, one that preceded Park, William Du Bois (Du Bois 1967, p. xii). Du Bois grew up in an African community at the end of the 19th century, and from that lived experience, he elaborated a sociological study of the Afro-American community, *The Philadelphia Negro* (Du Bois 1967). Du Bois's dedication to the expression of the livelihood of black folks was entangled with his own political leadership (op. cit., p. ix). More than a century later, his considerations over structural inequalities are still valid. It was in the United States, where Du Bois was from, that the first studies of the *ghetto* took place, under the disciplinary lenses of sociology. Although the term ghetto had lost its public usage in the USA by the end of the last century, the sociologist Loïc Wacquant recovered its sense to qualify a specific experience related to such places: the racial segregation allied with the economic exploitation (Wacquant 2004, p. 157). The image of

⁸⁴ More on this matter on the next chapter.

⁸⁵ As expressed by Park: “The marginal man is a cultural hybrid, a man living and sharing intimately in the cultural life and traditions of two distinct peoples; never quite willing to break with his past and his traditions, and not quite accepted, because of racial prejudice, in the new society. (...) Whom fate has condemned to live in two societies...not merely different but antagonistic” (Park 1928, p. 892).

the ghetto is associated with marginality, in the sense of criminal activity, systemic violence and economic poverty. Wacquant analysis compared USA's ghettos to French' *banlieues* and arrived at the same conclusion: the ghetto was a product of collective violence, produced by the asymmetry of ethnoracial identities (op. cit., pp. 5, 32).

Living on the margins isn't just about blight experiences. Wacquant also characterized the lived experience of the ghetto as a "machine of collective identity" (op. cit., pp. 161-162). It's in this sense that we would like to refer to situated experiences that give meaning to collective existence through the arts and academia. We have identified these initiatives in this territory in the recent past, before we initiated our field research. In giving meaning to the lived experience of 2.º Torrão as a ghetto, a situated group of youngsters has affirmed its collective identity as 'GTO FAM' (meaning 'ghetto family'). Taking the mantle of the marginal, or in this case, of the 'ghetto family', they use their arts to tell their truth and create bonds. As the struggles of the day-to-day are all connected in a living community, these youngsters invest their value in being part of a counterculture. Rap and hip-hop became that place of emergence of a new identity strength, accusing the hegemony in compliance with a conspiracy against their livelihoods, as it has been documented by hip-hop studies and a situated approach in anthropology in the urban area of Lisbon with the local hip-hop culture (Fradique 2003, Forman 2002). As with other collectives of rap and hip-hop, this is the place to find biographical narratives and the stories of community struggles, often the only place where to find that regard (Fradique 2003).

The place of academia on these margins has had a situated history before this research. Crossing the livelihoods of the traditional fishermen, who have their own political and epistemic struggles⁸⁶, and the African migrants, relegated to poverty, the area of Trafaria-Caparica has other local self-built communities. A group of scientists and local inhabitants from the neighborhoods of *Bairro* and *Fishing* started developing work together since 2002. The Urban Boundaries Project was a solution that they found, 10 years after, to continue to be together (Pais et al. 2016, pp. 19-21). Among other activities, this group was reflecting and producing knowledge from the margins to the bigger picture of European politics and European identity (Pais et al. 2016). Valuing local-based knowledges and livelihoods was a tenet for these community-based approaches that continue to resist to this day.

3.3 By the margins of the Estuary, finding refuge and solace

The neighborhood of 2.º Torrão is signified in stories of refuge and solace. To many people living somewhere else, spread in the metropolitan area of Lisbon, when encountering a problem in the place they were, if faced with some trouble, 2.º Torrão appeared as a safe haven. With the immigrant influx from Portuguese-speaking African countries, the neighborhood

⁸⁶ The section 'The fishermen: Defining epistemic and political uncertainties' in the next chapter deals specifically with these challenges.

became larger at the end of the 1990s. In the summer days, each day was a feast and a purpose for celebration. In the cold and rainy periods, the earth pathways became muddy, to the complaint of many. In those harsh conditions, the neighborhood was where some would come to seek shelter and a last possibility where to find a home. It was on such a gray day that we found Toni in one of the community homes. Desolated after a fire affected his home, he was aching to find some work in construction so that he could use that money to rebuild his place. Forty-two years before, he had left Guinea- Bissau with his father and his brother to come to Portugal. They were surprised by the political instability that had set in Guinea. “They were expelling the whites” (Toni, 2016). Facing that reality, his father made the decision not to return to their home country. Toni was just 11 years old back then. His father saw that returning to Guinea posed a risk and that staying in Portugal would give the boys better chances of finding a safe place to live (ibidem).

The landscape surrounding the community of 2.º Torrão, with the pine woods on one side and the Estuarine wildlife on the other, brings upon the inhabitants a particular sense of belonging. The territory of Trafaria, where 2.º Torrão is inserted, hosts other settlements with self-built homes, in-between the forest through the Estuarian coastline until the Atlantic Ocean. “I arrive here, and I feel privileged. At the end of the working day, I arrive home, and it seems I’m entering another world” (Sandra Garcia, 2018). In the summer days of the middle twentieth century, city people would come to the lands of Trafaria and Caparica to spend their days. In the little village where the Tagus River and the Atlantic meet, this period of the year is when their work pays off, selling their services and goods and renting properties. Still, for some of these inhabitants, the Summer is the period of the year when they hide. Some of these visitors have been felt to be invaders, arriving and leaving fast and not showing care for the place they are at, coming to use it as a commodity and leaving behind their marks, their trash. With the autumnal equinox closing in and the colder days arriving, the visitors would leave. Some people would leave behind their dogs. For the settlers who lived humble lives and faced all the natural cycles in this place, they became used to facing these refugees. “We had our own dogs, but then we would find the other dogs that were here abandoned” (Sandra Garcia, 2018). This was a matter of disagreement within the seaside communities. Some inhabitants wanted these animals to be taken away, while others would end up opening their hearts and homes to these stray animals. The same could be said about the humans who arrived in these lands.

Connecting with 2.º Torrão in harsh days of cold and rain, was to be open to stories of hardship and migration. Tavares was one of the oldest Cape Verdeans living here. For that reason, the nationals of this archipelago living in this community would tell newcomers to go and be welcomed by him. His words had the wisdom of the struggles he went through. Tavares is a firm believer in the teachings of the Bible. All humans are living in evil and need the illumination of the words of God. For that reason, he would find solace and meaning in the arduous paths and the many obstacles that were presented to him in the past. In the archipelago of Cape Verde, it was common to find humble lives, harvesting goods to make the meal of the day in houses built by hand in traditional ways. Like many others, Tavares had escaped to Portugal in the 1960s and took a hard and strenuous life working for the construction of the capital city of the

Portuguese empire.

Just a year before the Portuguese revolution, in 1973, Tavares and other seven of his countrymen, counting with his wife and children, decided to try their luck and reach the heart of Europe to try a better livelihood. He remembers lively those younger days, when he was dreaming of settling in safer grounds. That day, when they were trying to cross the river across the border, trying to reach France, left a mark on him. It was nighttime and for that reason it was difficult to see properly. They were walking on a line, one after the other, guided by two men who were hired to help them on this journey. The wind was cold. Someone was commenting on the alligators, that alligators were there hidden in the cold, wet shadows of the river Bidasoa. Alligators would be there, waiting still until the moment was right to attack them with their powerful mouths. Tavares had only one symbol, a symbol for an alligator, that he found in one of his work tools. He had a crocodile marked on the iron of his old hoe. From that image, he recalled the powerful mouth that a crocodile has. His courage started to tremble, he felt fear. He was there, following the steps of a friend in front of him, holding a stick in one hand and a cane where he saved his clothes in the other hand. With the fearful image of the crocodile's mouth in his head, he slipped his foot and 'splash!' He fell into the water. One could hear the laughter. He escaped the water quickly in the middle of the darkness. Exactly in the next second, a police car made itself heard and seen. The border control officers were on their way to meet the group of runaways. There was no crocodile to be seen in the Bidasoa River, but the dream of arriving at a safer place was over. The next hours were filled with confusion, fear, hunger, and panic as those friends and family were deprived of their belongings and kept in enclosure.

Getting to know the community of 2.º Torrão involved, at that time, passing by Mr. Tavares' community coffee place. He was a moral compass for those around, where many came to share their struggles, as he himself had surpassed many obstacles. "Someone invented an envy for me, something bad for myself, an evil for myself, that this man cannot live. Why? I've worked so arduous, I've been working so much" (Tavares, 2016). Many in 2.º Torrão live segregated, with their own kin and circles. Among the older Portuguese that settled in this place longer ago, some people don't shy away from showing their profession for fascist and racist ideals and nostalgic feelings for the old dictator Salazar. Still, it is also a place of interconnectedness, where people are interdependent and cooperate with each other. One of the ancient settlers, Mário Ferreira, was knowledgeable of the seascape and how to fish with nets. Of all the fish he could get, most were to be shared. I was born into fishing, and, as long as I can, I will go fishing. (...) What I fish, I give it to the people, I give it to the Roma people, I give it to everyone" (Mário Ferreira, 2018).

3.4 Precarious settlements as intervention spaces for architecture and urban studies

In 2023, according to UN Habitat's data, there were 1.1 billion people living in slums and informal settlements, a number likely to increase and to be more relevant in proportion to other city dwellers (UN Habitat 2023). Contemporaneously, most studies on precarious settlements, broadly speaking, come from the fields of urban studies and urban planning, which take as central role the analysis of housing conditions, as the before mentioned specifics of access to electricity, water and sanitation services and infrastructural conditions and their implications in relations of knowledge and power. Overall, there is a gap between normative constitutional rights and the lives of the poor of the world, that drives many scholars to this field steered by values of equality among human beings (Karam and Huchzermeyer 2006, pp. VIII-IX). These disciplinary lenses always involve, in their perspective, concrete references from the history of the mentioned disciplines.

As early as in the 1960's, scholars dealt with self-built communities that were rising close to urban centers. Architect John F. Charlewood Turner emerged within the Peruvian *barriadas*, squatter settlements often initiated by land invasion, and that transformative experience became a foundation for his breaking with academic boundaries and positioning himself politically as advocating for seeing precarious settlements as a resource rather than a problem. As he compared housing conditions and was involved in rich exchanges with other academics across the Americas that saw global capitalism as a menace, he realized that self-governing systems of housing delivered higher-standard homes than those provided by unsubsidized, centrally administered systems and healthier social environments (Turner 1977, pp. xv-xvi). Magin, an anthropologist of the same period, was also placed in South America. He notoriously identified a different perception between the power holders and the grassroots approach to what a precarious settlement⁸⁷ means and who dwells in it. He identified a number of myths, such as that the people who live in such places lack an education and don't partake in the city life, that they are chaotic and unorganized, or that such inhabitants are prone to criminal activity (Magin 1967, p. 66). In parallel, the anthropologist Lisa Peattie was releasing her *The view from the barrio*, where she articulated a perspective from the barrio of *La Laja* to understand the structural transformations taking place in Venezuela (Pettie 1968, pp. 1-6). Peattie would also become an important advocate for social causes and the engagement of her discipline with societal issues in the 1970's. Another architect from this time period, the dutch John Habraken, founder of the '*Stichting Architecten Research*' (meaning 'Foundation for Architectural Research', or SAR), also rose as a starchitect for his alternative vision to the impersonal monolithic vision of housing, to situate architects and designers as "custodians" to the agency of residents, who, better than anyone, know what they and their communities need

⁸⁷ Precarious settlements have naturally a diverse range of designations, depending on nations and regions of the world. In the 1960s, a more general terminology has been developed that defined precarious settlement as a place of economic and social precarity. Other common designations are informal settlements, shanty towns and slums. More recently, the terminology used to reference such places has become more targeted by scrutiny over its politicized use to undercover political agendas (Deboulet, 2016, pp. 13-15).

(Shepard 2023).

These first approaches to the positioning of precarious settlements and their relation to the urban centers were done by the above- mentioned authors: Turner, Habraken, Magin and Peatie. They had diverse places to meet, where meaningful exchanges and debates took place. One of such ‘centres of calculation’⁸⁸, borrowing the concept from Latour, were the International Congresses of Modern Architecture (the ‘*Congrès Internationaux d’Architecture Moderne*’ – CIAM). The perspectives and world- views connected to these meetings continue to influence architects and urban researchers to this day. Such was the case of some of the situated researchers that arrived in 2.º Torrão, inspired by the dynamics and reflections taking place in these CIAM meetings and opening up some other references of past works. It’s considered that the approximations between the practice of architecture and cultural anthropology towards a more humanist architecture were very much stimulated by a collective that stemmed out of the CIAM meetings, the ‘team x’ (more on Figure 1).



Figure 1 – Team x and ethnography in architecture – ‘Team ten’ or ‘team x’, was a fluid group of architects who questioned modern architecture from post-war Europe. The meetings that fostered sharing and production began in the context of CIAM, the international congresses of Modern Architecture, which, driven by Le Corbusier and Sigfried Giedion, functioned as a platform for modern architects since 1928. These meetings welcomed a great diversity of architects, with an equally diverse range of practices, which were organized by some young individuals: Shadrack Woods, Alison and Peter Smithson, Aldo van Eyck, Giancarlo De Carlo, Georges Candilis and Jaap Bakema. On the left of the image, we see a meeting of ‘team x’ in 1974 in the Aldo van Eycks gardens, in *Loenen aan de Vech*, in the Netherlands. ‘Team x’, mainly with the contribution of Aldo van Eyck, opened architecture to cultural anthropology in the 1960s. His school is coined as advocating (anthropological) “structuralism”, as Van Eyck absorbed references from pre-Lévi-Strauss cultural anthropology that he aggregated in his own study of the *Dogon* civilization in Mali and the settlement of *Taos Pueblo* in New Mexico

⁸⁸ The ‘centre of calculation’ was a concept developed by Latour in 1987’s *Science in Action* to generally designate places where scientists gather and where they collect, discuss and analyze information (Latour 1987).

(Teyssot 2011). As represented to the right of the figure, we have a photo taken by van Eyck of the *Taos Pueblo*, in 1961. His visit to these places and his studies in Anthropology served to van Eyck as a confirmation of metaphysical perspectives. In reaction to the practice of Modern Architecture, van Eyck and 'team x' had a loose commitment to cultural anthropology but a dedicated mission to understand community and human relations as fundamental to the discipline (Alison 1968).

Architecture had become more political, in the sense of being owned and projected in governance by architects themselves, since the eighteenth century (Foucault 1982). These experiences, as the ones of 'team x' at the CIAM meetings, marked the potential of architecture as utopian, in the sense of being able to build futures in proximity to others. Ethnographic tools and cultural anthropology as a discipline allowed van Eyck and others to be closer to the communities where they developed their practice. In parallel, it's clear that in this very same historical period, there were considerations about the place of self- built neighborhoods as urban peripheries, under the influence of Marxist theories.

Lefebvre's *The Right to the City* (1968, '*Le Droit à la ville*') is commonly considered as an indispensable companion to any urban thinker, in whatever capacity, to render a critical perspective of a precarious settlement in relation to a nearby urban center. This work, inspired by the writings of a young Marx, claimed social participation in the design of the urban landscape and has been appropriated by both capitalists and alter- globalization movements (Merrifield 2014, pp. 85-86). As we enter the 1970s, Castells was Lefebvre's student, and 'the urban question' was his doctoral thesis. Within an empiricist tradition, Castells elaborates a critical stance on global capitalist dynamics, built from Althusserian concepts of 'reproduction' and 'ideology' for the definition of 'the urban'. Contemporarily, it remains a reference for its conceptualization of "urban social movements", as grassroots movements cross the globe in protest and in relative independence from ideological party affiliations (Merrifield 2014, pp. 15-16).

These developments of critical thinking over the urban landscape went hand in hand with the development of social movements. Since the end of the First World War in Europe, movements based on solidarity and mutual aid had resurfaced. The figure of the volunteer emerged in this context, in movements that helped to rebuild infrastructures and communities affected by the War. Collective organizations that act across national borders were constituted in this context and gradually contributed to the emergence, at the end of the twentieth century, of a set of international humanitarian organizations aimed to serve communities and individuals in a subaltern position to global capitalism. As the anthropologist Didier Fassin reflects upon the humanitarian reason, these non-governmental bodies took a part in defining the humanitarian reason in this historical period⁸⁹(Fassin 2012). Precarious has its etymological roots in the Latin

⁸⁹ In Fassin's *Humanitarian Reason*, the author compellingly identifies a *longue durée* of the emergence of moral sentiments from the eighteenth century onward. A second temporality, that is here referenced, relates to the articulation of these moral sentiments in political action, at the end of the twentieth century. Through these, the humanitarian cause was affirmed and enforced by both governments and non-governmental entities (Fassin

word *precarius*, that which is "obtained by entreaty or prayer"⁹⁰. Looking above, the men in dire need await the humanitarian to assist.

3.5 Architectural interventions in 2.º Torrão

The people of 2.º Torrão, in its ebbs and flows, facing multiple strives, have hosted scientific researchers in the past ten years in the hope of contributing to the development of their community. Through 'field philosophy', I was able to cooperate with these scientists and inquire about their agency and the nature of the relationship established with others, their participants, collaborators or informants. As researchers arrive at 2.º Torrão, in similar terms to other precarious settlements, the reaction of inhabitants is to inquire about their role and aims in such a place. Locals have a special interest in architects, that are eventually able to give something in return that will transform the place. In 2.º Torrão, M. and his friends used to host different scientists and would differentiate them between two types based on the materiality of what they bring: The researchers with papers, that combine all the scientists that would have in their possession paper-based materials, and, on the other hand, the architects, that would arrive with a certain agency of transforming the surrounding space (M., 2015). The latter were especially cherished. The informality of the 2.º Torrão settlement, with a prolonged distance to the conditions of the urban area, is translated by its lack of permanent urban equipment. Young adults have no cultural equipment available, but ephemeral solutions, as coffee places and bars are quick to open and close due to the precariousness that is bound to the settlement. Spaces able to host meetings and the so- needed artistic practices are a constant requirement.

The architects and urban designers that I've met through 'field philosophy' had different situated approaches, revealed through the social relations they established and by character of the interventions they performed. The ethnographic-based approach to the space, inspired by the references above mentioned of 'team x' and the dynamics that took place in the CIAM meetings, was put in place by some young students. For urbanists and architects alike, the foundations of Marxist critical urbanism by Lefebvre and Castells, were put into perspective. Special considerations are needed, though, for architectural research and practice considered from a Portuguese and an international perspective.

In the post-revolutionary period in Portugal, the Ambulatory Service of Local Support (in portuguese: *Serviço Ambulatório de Apoio Local* - SAAL-) was a collective effort to develop better housing conditions in the national territory, with a great emphasis on urban centers. While in the city of Lisbon this initiative took the form of resettling peoples living in precarious settlements, in the city of Porto it was mostly defined by singular interventions. As the architect Alves Costa said, the SAAL projects in Porto were based upon "a critical action facing the resettlement policy of the population living in degraded zones, yet central to the city, into new

2012, pp. 4–5).

⁹⁰ Definition obtained through the Merriam-Webster dictionary available at <<https://www.merriam-webster.com/>>.

suburban neighborhoods”⁹¹ (Alves Costa et al. 2019). According to the architect Alexandre Alves Costa, the urgency of the design came from the “pressure of the urgency of the real needs”⁹² (Alves Costa 2007, p. 220). A neighborhood of Porto, named São Victor is paradigmatic of this informed decision-making during the SAAL urban renewal. When the SAAL team arrived at its place, there was already a social movement taking place. The SAAL team then positioned itself with the inhabitants. As another famous north- Portuguese architect stated, the intervention in São Victor served as a counter- power to the relocation of a poor community to satisfy “the capitalistic adaptation of the central nucleus of the city”⁹³ (Álvaro Siza Vieira in Alves Costa et al. 2019).

On an international level, the afore- mentioned rise of a humanitarian age, with non-governmental organizations having a place in the governmentality of the ones in need, is also marked in the practice of architecture. Organizations such as the ‘Architects Without Borders’ act like a charity in such scenario, close to deprived communities, and serve as a form of contamination of a particular *ethos*, as young Architectural students from different parts of the world are introduced to poor communities as the settings of informal settlements throughout the world. The relations that the architects establish with the poor peoples are different, as the references and the methods employed. These methods can take the form of ethnographic-based practices or of direct democracy, and ultimately will depend upon an experimental approach. For a greater grasp on how the situated perspective from 2.º Torrão informs about a diverse set of approaches, Table 1 lists the collectives of architects that were related to this community from 2013 to 2023.

⁹¹ My own translation from Portuguese.

⁹² My own translation from Portuguese.

⁹³ My own translation from Portuguese.

Table 1 – Architectural Interventions in 2.º Torrão, Almada, from 2013 to 2023.

Name of the collective/ project	Period of intervention	Description	Outcomes
'in-situ' – Architectural Intervention Laboratory for Architecture students from the <i>Autónoma University of Lisbon</i>	2013-14	'in situ' in 2.º Torrão was aimed to design and build support structures for the neighborhood's population. It had an experimental character in the form of a laboratory for young students to rehearse and implement these structures. It was also aimed to contribute to the city's plan of progressive resettlement of local inhabitants.	Construction of several support structures, such as: garbage collection points, a playground, support structures for local vegetable gardens, an outdoor table and renovation of the headquarters of the inhabitant's association building. In the first edition of 'in situ' (2013), ephemeral materials were used, that decomposed in some months. The next year, 'in-situ' returned to assure more lasting constructions. It also achieved effective mediation in-between different departments of the City Hall of Almada and between the city and inhabitants.
Marco Tavares and Gonçalo Spínola (Architecture students from ISCTE-IUL)	2013 – 17	Marco and Gonçalo were very interested in the organic nature of the urban planning of precarious settlements. In 2.º Torrão, they approached their architectural work with an experimental approach, interested in processes of dissemination and cooperation in building and designing among inhabitants.	Establishment of personal relations and cooperation in building and architectural interventions in private spaces.
FRAME colectivo	2017, 2023	In cooperation with the citizen science project New Stakeholders – Sciences, in 2017, the collective was set to design and build three meeting places in 2.º Torrão. In 2023, FRAME colectivo also intervened in the set-up of an exhibition.	In 2017 three places were structured in 2.º Torrão, built with perennial materials (accompanied by cultural activities) and absorbed to this day to the community's dynamics. In 2023, an exhibition was in Almada's Galleries and was latter incorporated by the Inhabitants in the community.
Studio: Arrival City - Master of Architecture Design Studio from the Sheffield School of Architecture	2019-20	Territory of focus projects placed in 2.º Torrão and the adjoining settlement of Cova do Vapor and the village of Trafaria. Students explored the right to housing, addressing growing urban inequality and the threat of climate change.	Three of the studio's students chose to design solutions for 2.º Torrão: James W. Rest explored the governance by user-groups in the neighborhood; Chloe Nichol designed governance-solutions for equity; and Alice F. Howland designed floating buildings as a housing alternative for the community of 2º Torrão facing the rise of the sea level by climate change.

Architects when dealing with precarious settlements have often a strong experimental basis on their approach. Still, if compared to the whole body of architectural practice and education, architects- in- training seldomly have such an opportunity. The 'in-situ' project did interventions in 2.º Torrão that were informed by references of past low- budget community projects⁹⁴ to involve students in building, an approach that is unique in the Portuguese Academy⁹⁵. The first class of this program, in 2013, built community spaces and garbage bins but mostly with materials that weren't resistant and that ended up perishing, to the complaint of local inhabitants. A part of these objects was appropriated for other purposes and removed from the public space, in a mobility that was targeted by another researcher as her object of research. The 'in-situ' school project returned then, the next year, with a renewed focus on giving as an output more durable structures. Marco Tavares and Gonçalo Spínola were also present in 2.º Torrão as part of their training and their field work. The experimental character of their approach, as they were working on a smaller scale, focused on interactions in-between inhabitants and interventions in private spaces. Their approach was inspired by a specific historical social role in the Portuguese urban history, the "street makers"⁹⁶. After Lisbon's earthquake of 1755, these individuals obeyed the chief engineer of the kingdom by walking through Lisbon after the earthquake, signaling the streets that had been destroyed and building new ones, in a detailed compromise between the urban plan and the reality of the place, as they should "rectify with clarity what seemed as useful" (Aires 1910 in Teixeira de Sampaio 2011, p. 113). Such inspiration took the young architects to assume, by times, the role of learners to the inhabitants of 2.º Torrão, that had such lived experience of organic design and building. Their presence in this space was unconventional as it wasn't related to delivering outputs in the public space, as most of the other initiatives, that are detailed with some pictures in Figure 2.

⁹⁴ Examples given by the 'in-situ' project representative Filipa Ramalhete of inspiring past architectural interventions include the intervention of the architect Filipe Balestra in Cova do Vapor, Almada [2011, with the Informal School of Architecture], of the collective *Zuloark* in Campo de Cebada, Madrid [being *Zuloark* an open office of distributed architecture and urbanism that started in 2011] and the work of the architect José Castro Caldas with Rio Negro communities, in Brasil [during 2011-13, with the support of *Fundação Amazonas Sustentável*].

⁹⁵ By the words of Filipa Ramalhete in a field philosophy interview in 2020: "To build is not a tradition of Portuguese Academy. (...) Until today, no one does what we do" (my own translation from Portuguese).

⁹⁶ By my own translation from the Portuguese from "arruadores" as they are called in Portuguese.



Figure 2 – Architectural interventions in 2.º Torrão. A) Map of the neighborhood of 2.º Torrão done in mobile serigraphy in the neighborhood, that invited inhabitants to mark their clothing items and textiles with it. These cultural activities with Atelier SER were part of the structuring of place dynamics by FRAME Colectivo (© 2017, *FRAME Colectivo*); B) Photo of one of the places where the ‘in-situ’ project intervened in 2013, a garden support structure (© 2013, in-situ); C) Photo of the main square of 2.º Torrão, Largo da Associação, after the intervention of FRAME Colectivo. As this was a common meeting place from 2014 to 2017, the collective built these benches to accommodate the use already given to the place. This wood was recovered from waste, a noble material appropriate to outside use, that had been disposed of by the city of Lisbon. This space latter was appropriated by a private business and continues to be part of the neighborhood’s dynamics (© 2017, *FRAME Colectivo*, Carolina Miguel). D) Drawing by Architectural student James W. Rest of his project of co-governance in 2.º Torrão, as part of the Arrival City Studio. As his field research identified social groups and their ambitions, he connected these projections into the use of the main square of the neighborhood. His projection reflected in this drawing, involved the construction of a building that could host the artistic and scientific developments taking place (© 2020 Studio: Arrival City, James W. Rest).

All the Architectural interventions in 2.º Torrão represented in Figure 2 were creating reports with the community, most of them creating goods or services that were articulated with the community dynamics that were in place. FRAME Colectivo intervention reused wood that was considered as waste by the city of Lisbon. Many inhabitants have done a similar displacement of materials in the past to build or rebuild their houses, as they collected wasted wood from a carpenter in the city (Mimi, 2016). In the cultural interventions coordinated by this collective, a graphic identity was collectively created that, later, branded a local artistic collective. Still, among the initiatives represented, there was one that did not materialize a built environment. As represented in Figure 2 – D, the drawing of Rest of the Arrival City Studio, shows a square that has been restructured, incorporating a building that serves for the community to gather and a music studio for local artists, opening possible worlds where the dreams of the people he engaged with could take form (more in Rest 2020). With a similar approach, Alice Howland, also from the same collective of architectural students identified a possible future where, facing the consequences of sea level rise by climate change, the community of 2.º Torrão could be resettled in the same physical territory with custom- built floating houses (Figure 3).



Figure 3 – How can floating architecture serve as a resettling option for 2.º Torrão in the future? The student of architecture Alice Howland, during her research stay with Arrival City Studio in the territory of this coastal community, devised a future where 2.º Torrão could be resettled in floating houses. A) Following the Sixth Assessment Report of the United Nations Intergovernmental Panel on Climate Change, the global mean sea levels are going to rise in the proximate future. In this image, the effects of the temperature- dependent rise in the global mean sea level and its resulting submersion of this coastal community is depicted. B) The design of a possible future, incited by the wishes of local stakeholders Alice met. In this scenario, 2.º Torrão would be resettled in floating homes. In this image, a channel-view of the community, that would be crossed by these different waterways, is depicted. C) In this depiction of an air view of the neighborhood of 2.º Torrão we see illustrated the site that Howland proposes for the community to be resettled, towards the Estuarian waters, facing its current location. D) The expected sea level rise will affect broadly the surrounding territory of Caparica – Trafaria. This image depicts how this imagined future of a self-sustainable floating community

could serve as the first phase of an imagined floating city (© 2020 Studio: Arrival City, Alice Howland).

A class doing their Master Studies in Architecture in Sheffield had the territory of Trafaria (where the neighborhood of 2.º Torrão is placed) as part of their curriculum in 2019-2020 with the Design studio that goes by the name of Arrival City. This studio was set up under the direction of Professor John Sampson, joint director of this Master Studies Program. The chosen name, “Arrival cities”, is inspired by the name of a book by the journalist Doug Saunders that traveled through different urban centers to research about their peripheries. Saunders’ *Arrival Cities* researches on how the largest migration in history is shaping our world, reporting on how at the turn to the 21st century world- wide rural communities have migrated to urban settings (Saunders 2010). Sheffield’s design studio follows this thread of Saunders’ book, as it promotes each year research on different European cities over the environmental, political and social impacts of migration. During their stay in Trafaria, they visited the territory and met stakeholders and experts. Then, as they returned to Sheffield, the students worked upon their research topics and on designing solutions. The techno-scientific utopia designed by the student of architecture Alice Howland, shown above on Figure 3, composes a self-sustainable future for 2.º Torrão. The utopian floating city she designed could host other coastal communities and migrants that would arrive in the urban area of Lisbon. Her work was informed by the dreams of local stakeholders she consulted⁹⁷. In a similar form, Rest and Nichol, the other students of Arrival Studio that worked on design solutions for 2.º Torrão, also chose a communitarian approach, informed by local stakeholders.

3.6 The troubled connection to central power: the rehousing plan

With the architecture initiatives that were shown above, a majority were grassroots initiatives with built spaces for the fruition of the community or by showing *cartographies of possible worlds*. Still, one of those approaches was linked to the exercise of a central power, in the sense that it was connected to the city of Almada, the council that this neighborhood belongs to. The ‘in-situ’ architectural project took a councilman of the city as a stakeholder for their intervention, that influenced the choice of 2.º Torrão as a place to intervene, a choice that directly informed the political standpoint of the project. According to one of its coordinators, the project also served to mediate the access of inhabitants that had an interest in being resettled to the city planners. The rehousing of 2.º Torrão is a debated issue, usually seen at odds throughout the life of the neighborhood. As some of the agents that were there in place representing ‘in-situ’ served as mediators to the city and their resettlement plans, they conformed to a certain role, that probably had an influence on the nature of the relationships established with people from the community.

In a precarious settlement, the presence of a researcher is seen with suspicion, of

⁹⁷ More information about Howland’s proposal in her portfolio available at: Howland 2020.

the possible extractivism of its action, being there solely to get the information that he or she needs to fulfill a duty and possibly to take the standpoint of the community in academic settings. To architects and urban researchers connected to housing, their presence can, even more, be understood as a direct connection to political power. Sharing this same inference, the social researchers Ana Rita Alves and Roberto Falanga describe an archetype of the researcher with an institutional engagement in housing struggles in Portugal (Alves Falanga 2019, pp. 16-17). According to their research, such an institutional engagement can be manifested through the enrollment of the researcher in different practices. These can involve activities as doing a consultation or monitoring process in a precarious settlement in representation of the state or the city (Alves Falanga op. cit., p. 16). The 'in-situ' project in 2.º Torrão, according to its representative in the 'field philosophy' interview, was engaged in a monitoring activity, by working between the city and the local community, contributing to identify people who wanted to be resettled (Filipa Ramalhete, 2020).

Inhabitants of 2.º Torrão have lived through diverse troubling experiences related to resettlement. To the first settlers of this place, diverse state representatives had projected the resettlement of the neighborhood, that never came to fruition. A great majority have had either an embodied or affective experience of forced displacements from other precarious settlements. In the 1990s, Portugal had a rehousing program that was set to eradicate all shanty towns⁹⁸, but that never reached its full fruition. The resettlements started in 1993 with top-down surveys conducted by state workers and researchers that initiated a certain tradition of dealing with such places. By not recognizing the self-organization of precarious settlements, these procedures were prone to generate conflicts and dispossession of those not recognized as proper inhabitants. Scientists in human and social sciences, using ethno-anthropological methods and placed in the urban area of Lisbon, have followed and documented such practices of social injustice (Ascensão 2011, pp. 284-342; Alves 2013). Alves shows how there is an ethnic/racial space segregation in the implementation of such rehousing practices, with the black population being erased from Lisbon's city center (Alves 2013). The geographer Eduardo Ascensão shows that the technocratic apparatus of the top-down procedures of the Portuguese' relocation program is troubling for the affected people (Ascensão 2011, pp. 284-342). There was a clear color line drawn over who is recognized to resettlement in 2022 in 2.º Torrão, using esoteric bureaucratic mechanisms that leave the Africans or the Afro- descendants as more prone to be excluded from the right to housing⁹⁹. Moreover, 2.º Torrão is the last precarious settlement in Lisbon's urban area to be placed by the coastline. All the other precarious settlements in the metropolitan area that were by the coast were displaced in the last decades (Ascensão Leal 2019).

As 2.º Torrão is flanked by a megaindustry and a NATO base, it's believed that this positioning has protected this territory so far from economic speculation. The hovering promise of relocation, knowing the history of top-down displacements of precarious settlements, can

⁹⁸ The Special Relocation Program (the 'Programa Especial de Realojamento' in Portuguese) was set by law in Portugal by the decree 163/93 of May 7th.

⁹⁹ More on this in chapter five.

easily become a threat to the livelihood of this community. This type of intervention has a recorded history and is usually referred in urban studies and political philosophy to Michel Foucault's concept of 'biopower', that we will consider with more detail in the next section.

3.7 Foucault and the concept of biopower

Foucault, when devoted himself to the genealogy of power, to explain how power permeates things from below, set the grounds for a singular approach in political philosophy. He had abandoned the traditional approach to the problem of power, which is based on juridic-institutional models, by the definition of sovereignty and the theory of the State. He wanted to free the historical and philosophical analysis of the imposed shackles, to make visible "relations or operators of domination", as he was setting the foundations for his genealogical project of power (Foucault 2003, p. 43).

Foucault's historical reading of finding governance as just a continuation of war tactics is a clear opposition to the classic literature on political philosophy, as we can find in Hobbes' *Leviathan* (Hobbes 1651 1968). Formulated during the English Civil War, Hobbes argues for the definition of a state- of- nature¹⁰⁰ as an eternal war of everyone against everyone, where justice and wisdom are inconstant names, that might mean its opposite, as men are run by natural passions, that carry us to partiality, pride, revenge and the like (idem., p. 109). The great Leviathan or State as defined by Hobbes is then the mythical solution, an enforcement of law and security that brings peace.

Foucault finds in Hobbes' writings about the state of nature a justification for the definition of sovereignty by those that are below, shaped by their fear. The primal definition of men by Hobbes' as being in a savage war, just like the civil war that dominated Hobbes' times, is actually a theater, where a "field of primal diplomacy" dominates to the advantage of the social contract, as a juridical regime of absolute power (Foucault 2003, pp. 92-97). Foucault wants, otherwise, to save the dirty political historicism to find a politics of rebellion. It's in this context that Foucault follows the hypothesis that politics is the continuation of war by other means, inverting Clausewitz' aphorism¹⁰¹ (op. cit., p. 15). Foucault's positioning is, unlike Hobbes, not

¹⁰⁰ The state- of nature is usually taken as a fictional and pre- political period that is formulated by political thinkers as coming before a political affiliation, a social contract. The social contract theories are central to the political philosophy of the XVI/ XVII centuries, to the likes of thinkers as Hobbes, Locke and Rousseau and contemporaneously to thinkers affiliated with a republican or a liberal perspective. Contemporaneously, considerations about the state of nature aren't as common. Martha Nussbaum, a philosopher that is considered close to the social contract with a liberal perspective, recovers this classical tradition to consider the frontiers of justice (Nussbaum, 2006, pp. 39-42). Moreover, latter in this chapter, in the section called 'Communities driven by consensus vs. Communities driven by disagreement', the 'state of nature' is used to discuss the concept of community.

¹⁰¹ Formulation of Carl von Clausewitz's principle in 1832: "War is a mere continuation of policy by other means (...) War is not merely a political act. But also, a truly political instrument, a continuation of political commerce, a carrying out of the same by other means." (in Foucault 2003, p. 21).

associated to the power of the prince and it reads power and its technologies as pervading into relations of domination, as manifestations of a continuation of war, that are detrimental to men. It's in this context that Foucault formalizes the disciplinary power, with the epistemological consequences we have seen¹⁰².

A second point we can find in Foucault's historic- philosophical analysis from below that is of special interest is the affirmation of a biopolitics,

"After a first seizure of power over the body in an individualizing mode, we have a second seizure of power that is not individualizing but, if you like, massifying, that is directed not at man - as - body but at man- as- species. After the anatomo- politics of the human body established in the course of the eighteenth century, we have, at the end of that century, the emergence of something that is no longer an anatomo- politics of the human body, but what I would call a "biopolitics" of the human race".

(Foucault 2003, p. 243¹⁰³)

Biopolitics is defined by Foucault by emerging in the end of the eighteenth century by forms to control the population, not individualized, as until that moment, but taken by their multitude, and its ways to "let live or let die", as Foucault's famous epitome stated (op. cit., p. 241). This seizure was related to all the abstractions of a population as finite qualities and quantities, as the birth rate, the mortality rate, the longevity, materialized by institutions, as medical institutions, that coordinated medical care, by centralized power and normalized scientific knowledge (op. cit., pp. 244-245). This emergence from the domain of discipline of these tactics of biopower is identified by the author as related to the use of devices, at the beginning of the eighteenth century, to ensure the surveillance of bodies. Devices of an optical nature, like the *panopticon*, that were used in prisons and were connected to the enforcement of the separation of inmates, their serialization, and other cost- effective ways to exercise that power. Such analysis allowed Foucault to present a thesis about a "microphysics of power" in play. Such power isn't centralized, it isn't conceived as a property, but is made manifest through techniques, tactical maneuvers, ordeals, that are part of the never- ending war of domination of others¹⁰⁴. The conception of this micro level with Foucault is not to be understood as a

¹⁰² In the 'Introduction' to this thesis.

¹⁰³ Translation from David Mackey. I leave here the original quote from Foucault: "Après une première prise de pouvoir sur le corps qui s'est faite sur le mode d'individualisation, on a une seconde prise de pouvoir qui, elle, n'est pas individualisante mais qui est massifiante, si vous voulez, qui se fait en direction non pas de l'homme-corps, mais de l'homme-espèce. Après l'anatomo- politique du corps humain, mise en place au cours du XVIIIe. siècle, on voit apparaître, à la fin de ce même siècle, quelque chose qui n'est plus une anatomo- politique du corps humain, mais que j'appellerais une «biopolitique» de l'espèce humaine" (Foucault 1976, p. 216).

¹⁰⁴ Foucault presented this thesis in his study of prisons in the book *Surveiller et punir – Naissance de la prison*. Of special interest to the definition of the "microphysics of power" is this passage: "L'étude de cette microphysique suppose que le pouvoir qui s'y exerce ne soit pas connu comme une propriété, mais comme une stratégie, que ses effets de domination ne soient pas attribués à une "appropriation", mais a des dispositions, à des

miniaturization of can be said or seen, as Deleuze points out, but as a new type of relations, molecular (by opposition to the molar oppositions, as to the State, as an example). This analytical approach of Foucault, differentiating molecular complementarities in relations of power, can be seen throughout his work (Deleuze 1986). For Deleuze the emergence of such *panoptism*, such architectural devices to watch and surveil from above, is connected to the emergence of the concept of the diagram in Foucault and is seen as a key component to the passage from a disciplinary society to a society of control¹⁰⁵.

The connection between the concept of biopower and the urban planning in the nineteenth century was furthermore developed by Foucault in his lectures at *Collège de France* (Foucault 1977, p. 251). As Foucault's disciplinary power affirms itself to render bodies useful and docile, biopower transpires as a regulatory technology connected to the notion of security. By localizing families, one per house and individuals, one per room, these people were made visible. Which meant that a "a sort of spontaneous policing or control was carried out by the spatial layout of the town itself"¹⁰⁶ (Foucault 2003, p. 251). Part of the signification of biopower includes to this day these strategies for intervention upon collective existence in the name of life and health, with significant expansions in different disciplines open to this critical comprehension of space¹⁰⁷ (Rabinow Rose 2006, pp. 196-197).

3.8 Falling into the trap of the centralized power perspective: The hygienist discourse

Including stakeholders from a centralized power as guides to engage with locals from a precarious settlement is a recipe for disaster for a researcher that has some intention of developing relationships based on equality. In the course of this field research there were several scientists who had a proximity to centralized power and, consequently, either had a critical awareness of their standpoint in 2.º Torrão or were eventually captured by the power holders' perspective. As an example, one of these researchers stated, at a field philosophy

manoeuvres, à des tactiques, à des techniques, à de relations toujours tendues, toujours en activité plutôt qu'un privilège qu'on peut pourrait détenir, qu'on lui donne pour modèle la bataille perpétuelle plutôt que le contrat qui opère une cession ou la conquête qui s'empare d'un domaine" (Foucault 1975, p. 35).

¹⁰⁵ Foucault himself never defined in these terms the passage from disciplinary societies to societies of control. Deleuze, in his analysis about the author, identifies this turn, by the passage of a disciplinary power to the description a centralized power dedicated to managing and control lives in its multiple forms (Deleuze 1984). Still, the emergence of such society of control is located, according to Deleuze, after the second World War, as "individuals have become "*dividuals*," and masses, samples, data, markets, or "*banks*". (Deleuze 1992, p. 5). Moreover, Hardt and Negri's post- Marxist analysis of Empire as a totalizing force, gives a central role to the use of Foucault's biopower for the rule of Empire, associating the biopower to a new paradigm made more explicit by Deleuze's (and Guattari's) further refinement of these mechanisms of control using concepts of plurality and multiplicity (Hardt Negri 2000, pp. 40-41).

¹⁰⁶ Translation by David Mackey.

¹⁰⁷ More is elaborated over Foucault's regards on power and space in the fifth chapter, especially on the section 'Mechanisms of control and its naked men and squared spaces'.

interview, that “this is a land that should never be populated”, due to its “insalubrity” (Loukia Batsi, 2019).

The idea of 2.º Torrão as an insalubrious territory is an historical construction. The area where it is placed used to belong to a swamp-like reedbed, a site usually prone to floods. Epidemics as of tuberculosis and cholera were a common concern in the nineteenth century and Trafaria had higher rates of mortality by comparison with Lisbon, that were connected to the climate related to its stagnant waters and to the living conditions of its inhabitants (Leal 2014, pp. 12-16). In 1882, by the order of the Portuguese Kingdom, the swamp was drained, and the area arborized, as the pine forest remains in the territory to this day (op. cit., p. 16). In parallel, from the end of the nineteenth century, Portuguese hygienists had targeted precarious settlements, that were the common living conditions of the working class, for their lack of hygiene (Gros 1994, p. 81).

2.º Torrão is a more “settled” shantytown, with a considerable development in terms of living infrastructure, even if lacking in sanitation services¹⁰⁸. For this reason alone, to reference the neighborhood as a *‘bairro de lata’* (the Portuguese term equivalent to shantytown), as it is common in the media and by city representatives can amount to a prolonged stereotype. The term itself, ‘shantytown’, lumps together very diverse living conditions and is considered to be used to serve certain political agendas (Deboulet 2016, pp. 13-15).

After the Portuguese revolution, inhabitants of 2.º Torrão were allowed to consolidate their constructions, and this allowed for the diversity in housing conditions that exist today. There are homes with better hygiene, health, and comfort standards than many of the houses in the public housing park. This assessment, though, is not technical, as this claim would need to be confirmed by the incursion of experienced technicians in the neighborhood¹⁰⁹. Without any additional available technical and medical information to substantiate the claim of 2.º Torrão as a place of insalubrity, this regard is commonly associated with the pejorative sense of *‘bairro de lata’*. The argument of insalubrity can, therefore, be associated with a myth that is incorporated in the claim that “nobody should live here” motivated by a political agenda of dispossession of river-side communities.

This recognition of a hygienist discourse associated to the city’s tactics of control of space is, furthermore, relatable to tactics of biopower, as we have seen above. Precarious settlements, as 2.º Torrão, are a troubling presence for a centralized power. Michel Foucault, when articulating the concept of “biopower” made relevant how this control made itself present over a mass and not only over individual bodies (Foucault 2003, p. 243). Foucault made this

¹⁰⁸ As it is described in the section ‘Getting to know 2.º Torrão’ above in this chapter.

¹⁰⁹ These incursions of technicians in places classified as shantytowns are informed in Portugal by “experienced eyes” of individuals that have their embodied lived experience through past evaluations carried out by the order of the state. These evaluations might involve regards that are objective, in as much as subjective (Ascensão 2013, pp. 168-170).

reading over an historical emergence of an “anatomy- politics of the human body”, as forms of exercising such political control were connected to the medical sciences since the end of the eighteenth century, using certain abstract qualities, just like those of the hygienists (op. cit., pp. 244-245). These considerations were critically linked to a control of space and an urban perspective that wants to individualize and identify people in the grid of a city plan.

The architects of the Arrival Studio that did their residence in 2.º Torrão found that the settlement was different in structure and form from other arrival cities they had worked upon in Germany and Italy. Sampson, director of this studio, during an interview to this work, expressed how these other arrival cities that his studio had worked with “made you feel that you “were just in another part of town” (John Sampson, 2020). According to the professor, in his reflection, in 2.º Torrão “the precarity of the people felt more exposed” by comparison to what he had experienced in other places (ibidem). Chloe Nichols, another student from the same collective, also understood that outsiders weren’t necessarily welcome at the neighborhood, as she and her colleagues had been warned by a local expert “not to go there alone or visit there at night” (Chloe Nichols, 2020). Her professor, though, with more embodied experience in these arrival cities, connected such fear to these other urban peripheries, as all these places partake the social prejudice of being identified as dangerous areas. These inferences revealed how these fears, of insalubrity, of the lack of safety, got themselves impregnated in the perspective of some of these researchers.

3.9 2.º Torrão in mass media

Federico Mollica was a student of Psychology of Intercultural Relations that did his field work during 2020 and 2021 in 2.º Torrão. His work was concerned with the perception of risk of sea level rise in the community and found that media representations of the neighborhood are integrated in a convoluted history of repression and stigmatization of the place (Mollica 2020, pp. 36-37). His media analysis found that the neighborhood is usually portrayed as a deteriorated place. The usual narratives are based upon criminal activity, illegality and poor conditions (ibidem). In similar terms, Alves found in her media analysis over the portrayal of the Portuguese shantytowns, that these places are usually associated with criminal activity and transgression (Alves 2013, pp. 47-54). These results are relatable to the representations we have discussed of the *marginal* and the racialized migrant (Park 1928, Wacquant 2002). Just like other urban peripheries, we see that 2.º Torrão’s characterization in mass media is structurally set as an index to refer to poverty and crime. Mollica’s concern was moreover related to the physical margins, to frame how environmental threats, as the sea level rise, contribute to the relations between inhabitants and their sense of place. His research found that the media’s portrayal of the risk of coastal flooding and extreme events by climate change in this territory is seen as inevitable and is integrated by locals as part of a narrative of relocation (Mollica, pp. 38-39). In addition, the inhabitants of 2.º Torrão that were participants in Mollica’s research perceived climate change as the greatest threat to the community (ibidem). In

agreement, as the eldest Roma inhabitant of the neighborhood confided in an interview connected to this thesis: “We live here with our heart cut into pieces. We see so much misery in other places, that we think that something similar will happen to us that live by the sea!” (Natália, 2015). Reinforcing this understanding of climate change as a threat to the community, a technoscience researcher visited 2.º Torrão in 2020 with a warning on climate change. He had an interview booked with a National newspaper (Gonçalves 2020). According to him, “people continue to build because they are waiting for the state to fail. They know that justice is very slow, and crime pays off. Therefore, they prevaricate¹¹⁰” (Ferreira, José Carlos in Gonçalves, 2020).

Following Mollica’s research, the natural risk of coastal flooding isn’t associated to the recognition of a political agency by the central power that would allow for the community to be engaged with this issue¹¹¹. The sea level rise is framed by the national media as a coming disaster, as another inscription of fear into the lives of community members of 2.º Torrão.

3.10 Places of fear

The neighborhood of 2.º Torrão from the 1960s until 1974 used to be under strict control of an individual, called Zé da Mata, exerted over the public property that belonged to the state. The settlement, at this time, was bordering to the East a private property of a French noble, that included a farm. Separating the premises was a big metal gate. Children at the time would often try to sneak into this place to play on the farm, where there were animals and trees and eventually some other treat. Zé da Mata was rude and violent and used to guard the gate with a shotgun in his hand. Any sight of Zé da Mata would send kids running away for their lives! This man provoked the greatest fear in their hearts (Mimi, 2015). As a token of the control exerted at this place, Zé da Mata had a bull that would be set loose at the western edges of the settlement. Children from the other neighboring settlement to the west of 2.º Torrão had to cross this borderline when walking to school. Any sight of the bull would make them tremble with fear (Maria do Augusto, 2020).

The contemporary narratives in mass media that portray precarious lives as criminals and disseminate scare- tactics about climate change, just like the image of the henchman that guarded 2.º Torrão in the 1960s, are related to fear tactics that compose the rule of sovereignty from below in political philosophy¹¹². The children at play in the settlement of 2.º Torrão respond to the henchman of the property, in representation of the state, with fear. This reaction will make them avoid the property limits where they might find this figure or his token, the bull. The portrayal in the media of the fear of the rise of the sea level by climate change has

¹¹⁰ My own translation from Portuguese.

¹¹¹ Mollica’s findings support this claim (Mollica 2020, p. 39), as well as our research, with more on this issue in chapter five.

¹¹² As we have seen above by Foucault’s reading of Hobbes’ sovereignty as fear from below.

another effect, of circumscribing the area where these people live as inhospitable and prone to danger and lack of security. Following Virilio's "politics of the square", this movement of deterritorialization is a tactic of power-holders to conquer it for other purposes¹¹³ (Virilio 1976 1993, pp. 167-171).

In addition, from the field of urban studies, there are scholars that define "politics of fear" (Koutrolikou 2016, Altraide 2003). Altraide substantiates, through media analysis, how such "politics of fear" are made through repeated media portrayals of crime associated with the figure of the victim (Altraide 2003). Koutrolikou, analyses the changing narratives of public speech and the mass media representation of a neighborhood in central Athens, Exarcheia (Koutrolikou 2016, pp. 276-280). Through the biased mediatization of confrontations where different anarchist movements were mobilized and represented as dangerous, the public speech repeatedly targeted the area as a forbidden place in need of security, a 'no-go area', devising the idea that a normal citizen that would cross to Exarcheia would be in peril confronted with the dangerous anarchists from the ghetto (ibidem). As Koutrolikou relevates, the politics of fear exists "as a tactic of power. The politics of fear not only construct, reproduce, or magnify fears, but also point to and construct the threat" (Koutrolikou, p. 272). Such tactics are used to circumscribe a given territory and associate it as unsafe, to be able to be controlled. After the militarization of the area, gentrification has taken hold of Exarcheia (Rafenberg 2023).

In similar terms to the the neighborhood of Exarcheia, in Athens, other places are defined by the power-holders as 'no-go areas'. Just like Exarcheia was defined, through mass media, as a dangerous area in need of security, due to its criminal activities, so has the neighborhood of 2.º Torrão been targeted to its crime and poverty. The menace of climate change has, moreover, been placed with precision in the last precarious settlement by the shore of the Tagus' Estuary. These mass media tactics of fear, as Koutrolikou and Altraide show, are a reflex of deliberate power tactics by the power-holders.

3.11 Communitarian media

In parallel to the mass media messaging of 2.º Torrão as a place of fear, an approach was developed in 2020 to media outlets as forms of building community with the local collective *Canto do Curió cultural association*. Renata Camargo, journalist, directed the initiative with social media tools and a participative approach informed by her previous experience of communitarian media with riverside communities in Brasil. In parallel, a local professional videographer from 2.º Torrão directed the professional video editing. This initiative, in which I immersed myself, supporting and managing, contributed to building relations of trust and tackle some local issues that were causing anxiety and confusion. Such was the case of a video tackling the electrical energy shortages in 2.º Torrão, as the piece explored to explain and portray what different actors were doing to solve the situation (Canto do Curió 2022a). In

¹¹³ Also, more on Virilio's "politics of the square" in Chapter five.

addition, as the sea was a source of renewed attention, this communitarian media initiative produced a short- film to rescue the livelihood of living by the shore through the perspectives of five women from the community (Camargo Duarte 2022).

The communitarian communication that was mobilized has been a target of theoretical reflection. Raquel Paiva, sociologist, in her brave and definitive book *O Espírito comum. Comunidade, mídia e globalismo* (meaning ‘The common spirit. Community, media and globalism’¹¹⁴) introduces the term of communitarian communication (Paiva 1998). In it, she is informed and inspired by the communitarian media of isolated communities in Brasil, that were producing their own media channels, as television, radio, and newspapers (op. cit., p. 15).

As the community of 2.º Torrão, facing multiple strives, was manifesting eruptions of dissent, the approach of communitarian media was working upon a horizon of consensus. As Raquel Paiva expresses,

"The proposal of the concept of communitarian communication necessarily goes through the revision of the concept of community, as well as the analysis of the possibility of inserting this structure in the present. Citizenship and solidarity become paradigms that allow us to imagine an order with different objectives from the universalizing economic premise, the same one that intends to establish globalization in a generic way. The community proposal appears as a new possibility of socialization, with the purpose of confronting the economic model in which the number of the excluded seems increasingly amplified¹¹⁵"

(Paiva 1998, p. 20)

Raquel Paiva’s ambitious portrayal of communitarian media, working upon notions of solidarity and citizenship, places this notion in opposition to the “universalizing economic premise”. In the same direction, to the reality of 2.º Torrão, communitarian media unfolded as an alternative to the politics of fear of mass media. The courage we find in Paiva’s definitions is not solely attached to the practical and sociological dimensions of her definition of communitarian media, but also in how she approaches the concept of community in search of a philosophical determination to face the future.

¹¹⁴ My own translation.

¹¹⁵ My own translation from the original Portuguese. According to the original quote: “A proposta da comunicação comunitária passa necessariamente pela revisão do conceito de comunidade, bem como pela análise da possibilidade de inserção dessa estrutura na actualidade. Cidadania e solidariedade transformam-se em paradigmas que permitem imaginar uma ordem com objectivos diferentes da premissa económica universalizante, esta mesma que pretende instaurar de maneira genérica a globalização. A proposta comunitária surge como nova possibilidade de sociabilização, com o propósito de fazer frente ao modelo económico em que o número dos excluídos parece cada vez mais ampliado” (Paiva 1998, p. 20).

3.12 Communities driven by consensus vs. Communities driven by disagreement

The novelty about Raquel Paiva's proposal of communitarian media is that she doesn't shy away from positioning herself and her work with the care that such proposition entails, entering the domain of philosophical thought to enlighten what a community would mean in her proposition (op. cit., pp.67-145). Including in her analysis authors as Marx Weber and Ferdinand Tönnie, she finds in their work an appeal to the concept of community that comes from the past (op. cit., pp. 97-113). Paiva's Weber defines the lack of social inclusion, as Weber's sense of community defines who is excluded (op. cit., pp. 106-108). Moreover, in her reading of Tönnie's positions, Paiva finds an appeal to what is considered "natural" and related to traditions (op. cit., p. 103). As she frames it,

"It must be admitted that the historical mark of the concept of community has been more easily understood and as a purpose, by the aspects that necessarily come from this conception - return to the past, jingoism in defense of the xenophobia -, which corroborates a reactionary and uninventive social structure¹¹⁶"

(Paiva 1998, p. 113)

In this revealing passage, Paiva concludes that the concepts of community that she has found depend upon a "return to the past" that is not in synchrony with the living, transformative sense of community she aims at. This sense of a nostalgic sense of community is clearly related to the sense given to it by Jean-Jacques Rousseau, the prolific philosopher that, in the eighteenth century, saved the concept of 'state of nature' from his predecessor Thomas Hobbes, to re-signify it in crafting a teleological evolution of man from that primal state to the decaying modernity¹¹⁷. Rousseau's nostalgic sense of a 'state of nature' can be found in several works of the author¹¹⁸. Paiva argues in the passage above that this very same appeal to

¹¹⁶ My own translation. Here is the original quote: "É preciso admitir que a marca histórica do conceito de comunidade tem trafegado com mais facilidade de entendimento e como propósito, pelos aspectos que necessariamente advêm dessa concepção – retorno ao passado, ufanismo em defesa das raízes nacionalistas, xenofobismo -, que corrobora uma estrutura social reacionária e nada inventiva" (Paiva 1998, p. 113).

¹¹⁷ Rousseau's *The First Discourse on the Origins of Inequality* describes the 'state of nature', by contrast with Hobbes' formulations. *The Second Discourse on the Origins of inequality* crafts the mentioned teleological evolution crafted by Rousseau. The developing of the concept of the 'state of nature' in the First Discourse advances by the classification of the 'savage man' as devoid of reason, speech and certain natural passions that Hobbes had previously crafted, Rousseau contributes to the characterization of the State of Nature as a "providential condition" (Scott 1992, p. 702).

¹¹⁸ Rousseau's work is marked by an event named as the "illumination of Vincennes". According to its description by the author: "Oh, sir, if I ever could write a quarter of what I saw and felt under that tree, with such clarity I would make all the contradictions of the social system appear; with what force I would expose all the abuses of our institutions; with what simplicity I will demonstrate that man is born naturally, and that it is through these institutions alone that men become wicked". (Rousseau 1762 In Scott 2012) [This is my own translation from

a fictitious past community fosters demonstrations of xenophobia and lack of inventiveness. To reach a better understanding over the notion of community, these demonstrations of hate and the appeal of the 'state of nature', the considerations of Jacques Rancière are useful.

Rancière in *La Mésentente – Politique et philosophie* ('Disagreement – Politics and philosophy') has a unique and incisive take on the nature of politics (Rancière 1995). In the fourth chapter of this book, the author draws considerations from the origin of politics in Ancient Greece to modernity (op. cit., pp. 93-132). While politics, with Rancière, is defined by the disruptive intervention of the ones- without- a- part, their political action will deal with an inherent paradox¹¹⁹. Politics, by reasoning over the proper rationality of the disagreement is, therefore, a "scandalous object" (op. cit., p. 15). So, the inventions of political forms since classical Greece tend to exert a policial order, of assigning places to the parts, balancing the potency of the political nature. When considering and naming the historical forms of the political, Rancière also elaborates considerations over Rousseau's 'state of nature',

"The myth of origins, in its final transformation, absolutizes the dispute of the proper and improper freedom of the people into the original contradiction of a freedom that each subject - each man - originally possesses and is dispossessed of. Man is then the subject itself of the relationship between all and nothing, the dizzying short circuit between the world of beings who are born and die and the terms of equality and freedom. And *right*, whose philosophical determination was produced to put paid to the nexus between *justice* and dispute, becomes the new name, the name par excellence, for wrong¹²⁰"

the original French language, I leave here the original quote: "*Oh, Monsieur, si j'avois jamais pu écrire le quart de ce que j'ai vu et senti sous cet arbre, avec quelle clarté j'aurois fait voir toutes les contradictions du système social ; avec quelle force j'aurois exposé tous les abus de nos institutions ; avec quelle simplicité j'aurois démontré que l'homme est bon naturellement, et que c'est par ces institutions seules, que les hommes deviennent méchants*" (Rousseau 1762 In Scott 2012)]. The nostalgic return to a primal 'state of nature' is then felt in the reading of Rousseau's 'Émile' and the 'Second Discourse'. As we see here in a passage from 'Émile' (my translation): "If we [Rousseau and Emile] were kings and wise, the first good we would do to ourselves and others would be to abdicate royalty and become what we are" (Rousseau 1966, p. 612). [In the original quote in French: "*Si nous [Rousseau et Émile] étions rois et sages, le premier bien que nous voudrions faire à nous-mêmes et aux autres serait d'abdiquer la royauté et de redevenir ce que nous sommes*" (Rousseau 1966, p. 612)].

¹¹⁹ The paradox of disagreement as described by Rancière can be stated by the contrast between the ordered visibility of the parts of the city, by which the ones- without- a- part understand themselves as being equals as speaking beings and, simultaneously, having to intervene by disagreement. As the ones- without- a- part take their share of visibility, understanding a sense of equality that the other parts of politics don't realize, their political act, nonetheless, won't respect by its very nature the (policial) order that presents itself (Rancière 1995, pp. 78-79).

¹²⁰ Translated by Julie Rose. According to the original quote: "La fiction d'origine, en sa transformation dernière, absolutise le litige de la liberté propre et impropre du peuple en contradiction originelle d'une liberté dont chaque sujet – chaque homme – est originellement possesseur et dépossédé. Homme est alors le sujet même du rapport du tout et du rien, le court-circuit vertigineux entre le monde des êtres qui naissent et meurent et les termes de l'égalité et de la liberté. Et le *droit* dont la détermination philosophique avait été produit pour

(Rancière 1999, p. 80)

Hobbes' version of the 'state of nature' had portrayed the natural man as always ready "to fight and attack", according to Rousseau¹²¹ (Rousseau 1755). Rousseau's fable, on the other hand, recognizes the idea of a natural sociability of man. Still, Rancière names the 'state of nature' (the "myth of origins") after being reformulated by Rousseau as a contradiction, that leaves man with empty hands. The role of *right* mentioned in the quote is a reference to Rousseau's alignment with his predecessor Hobbes when recognizing the role of sovereignty, as it becomes a philosophical principle, in-between the sovereign state and the people. As Rancière saw in classical Greece a fundamental wrong of politics by its assigning of parts, which always involved a miscount, a false count or a double count, Hobbes, on the other hand, extinguishes the possibility of the ones- without- a- part to take their share in politics (op. cit., pp. 25, 114). The modern theory on sovereignty, developed by Hobbes and agreed by Rousseau places the state above the individuals and right becomes the new wrong of politics. Therefore, with Rancière, the 'state of nature' is a piece of the puzzle that makes this form of politics enacted by Hobbes and Rousseau even more detrimental for actual politics to take place.

Paiva had argued for the place of the 'state of nature' as a reason to a social conservative, traditionalist approach to deal with the other and to foster xenophobia. The relation to the other that is liberatory in Rancière's philosophy is the one established through emancipation, initiated by the pure will of the individual with his intelligence obeying only itself (Rancière 1987, p. 26). Sensed as a multiplication of horizons, emancipation is equated as opposite to fear at a certain time by Rancière (Rancière 1992b). In the paper "Politics, Identification, and Subjectivization", Rancière equates the logic of emancipation as the logic of the self as another, an heterology (op. cit., p. 59). Fear of the other, as an opposing force, is manifested through racism and xenophobia and shows the "political handling of a wrong to a primal hate" (op. cit., p. 64). Rancière further considers that the "polemical culture of emancipation" was a form of "civilizing" that fear (ibidem). Such "polemical culture" of "social polemics" is needed and, in its absence, these demonstrations of fear and hate of racism and xenophobia thrive (op. cit., pp. 63-64). So, in conclusion, for Rancière, Rousseau's fable integrates a modern conception of politics that has informed the oligarchic forms of government we have today. To the account of Rancière, the policial control of social disagreement is the actual cause for social exclusion and xenophobia. Both Paiva and Rancière see the form of community as a solution for handling this problem, but in very different terms.

Raquel Paiva, while defining communitarian media, looks for a concept of community that is able to transform society, that can mobilize, through its territoriality, social change (Paiva

congédier le noeud du *juste* au litige, devient le nom nouveau, le nom par excellence du tort" (Rancière 1995, p. 117).

¹²¹ My own translation. According to the original quote: "Hobbes prétend que l'homme est naturellement intrépide, et ne cherche qu'à attaquer, et combattre. Un philosophe illustre pense au contraire, et Cumberland et Pufendorff l'assurent aussi, que rien n'est si timide que l'homme dans l'état de nature, et qu'il est toujours tremblant, et prêt à fuir au moindre bruit qui le frappe, au moindre mouvement qu'il aperçoit" (Rousseau 1755).

1998, pp. 127-152). Her conceptions try to find a philosophical archetype, based upon conviviality and, simultaneously, an institutional definition, that could work as a counter-power to mass culture and the neoliberal development (ibidem). Using communitarian media in the neighborhood of 2.º Torrão, as in the Brazilian communities that Paiva has worked with, the difference of experiences and positions is given a voice. The community journalist looks for that difference, just to be able to find a total visibility, a community-centered visibility, to the problem under focus. The participative approach to communitarian media engages others from the community in this exercise of 'making sense' of the different perspectives so that they can congregate in some media format. In this sense, the community that gathers through communitarian media is a community of consensus. The same inference can be made with mass media, in very different terms. As we have seen, mass media when dealing with the social margins employs politics of fear, defining in the territorial domain of the city these others that are segregated and excluded and portraying places like 2.º Torrão as 'no-go places'. Still, positioned at the city and balancing different political perspectives that aren't positioned at the margins, mass media also aims towards a community based upon consensus. The media piece, either from communitarian media or mass media, represents the materiality of that built consensus.

The situated researchers in precarious settlements also often present the opportunity for a community to be gathered for consensus-building. In 2.º Torrão most of the architects who have arrived, have worked to identify stakeholders that can present different perspectives of the structural problems of the whole neighborhood so that a consensus could be achieved on what would matter the most to work on. Some of the architects who have arrived to the neighborhood have chosen to work with smaller groups, not choosing actors for their social representation. The architects who position themselves as cartographers of possible worlds in this fashion, still have a standpoint of themselves as gatherers of difference and dreams in the small groups that have come together. They finally present their utopias as forms of a given consensus in that scale.

A different approach is given by certain situated researchers that have arrived to engage in a dialogue. The young architects inspired by past references of their discipline as Magin, Peattie and van Eyck, have situated themselves in dialogical relationships, not there to passively draw the dreams of others, but for themselves to learn about building, relating vague ideas about 'street-making' in the eighteenth century's Lisbon to what they might be surprised to discover together with inhabitants. These researchers didn't engage stakeholders to postulate a definition of their work. They invested themselves into particular relationships and formulated an exchange.

Considering Rancière's political philosophy to shed light on these formulations of community, first we must consider the role of the community assembled through communitarian communication. Communitarian communication can be identified in *La Mèsentente* as a reaction to the mass media's "homogeneous regime of the visible", that produces custom-made

opinions detrimental to the margins¹²². Gathering with others from the social margins in solidarity and friendship can be a sign of equality in the making. Still, Paiva's design of community engaged as a counter-power and structured as an institution can bring tensions that disturb the original configuration of a reunion of friends. Rancière, in an earlier phase, still reflecting on the meaning of communism, had written a text over the meaning of a community of equals (Rancière 1992; Rancière 2007, pp. 63-92). In that text, Rancière has as a reference the Icaria settlement, founded in the USA by Étienne Cabet and his followers, enacting the visionary equalitarian vision of Marx (Rancière 2007, p. 78). Icaria (that came to an end earlier than intended) mixed two different logics, accuses Rancière: the one of true equality of friendship and another of the world of labor and its arithmetics and fixed places where people take roles (op. cit., p. 73). Icaria was ill-fated, as community and equality are in "never-ending settling of accounts"¹²³ (op. cit., p. 65). This warning is valuable for communities under the siege of equality as a counter power that formulates their infiltration in the capitalist order (Duarte 2016), as is the case with the communitarian communication as thought by Paiva and enacted in Brazil.

In a second point, Rancière's concept of community is attached to the notion of equality, which opens stark differences to communities built by practices of consensus. Framing his political equality in *La Mésentente*, "polemical communities" are gathered. These "undermine the very opposition of the two logics - the police logic of the distribution of places and the political logic of the egalitarian act"¹²⁴ (Rancière 1999, p. 100). The "polemical communities" are, then, forcefully open to disagreement as it is what defines them as political and will disturb the equilibrium that was set. Rancière identifies at the root of this issue a

¹²² The "homogeneous regime of the visible", as described by Jacques Rancière in *La Mésentente* differs from the regime of appearance, as a loss of the real, as formulated by Baudrillard, or the democratic appearance of the people (Rancière 1995, pp. 138-139, 144-46). The homogeneous regime of the visible is defined by the conjunction of the mediatic and the scientific in their operation of reduction of the people to its objectified statistics and general opinions (op. cit., p. 146). As Rancière defined (translated by Julie Rose): "Appearance in general is thereby opposed by a homogeneous regime of the visible, and the democratic appearance of the people is strictly opposed by its simulated reality. But simulated reality is in no way the simulacrum's power to destroy the "real world" and its political avatars. (...) It is the organization of a specular relationship of opinion with itself, identical to the effectiveness of the sovereign people and to scientific knowledge of the behaviors of a population reduced to its statistical sample. Such a people, present in the form of its statistical reduction, is a people transformed into an object of knowledge and prediction that sends appearance and its polemics packing. (Rancière 1999, pp. 104-105). In the original French: "À l'apparence en général, elle oppose un régime homogène du visible. Et à l'apparence démocratique du peuple elle oppose strictement sa réalité simulée. Mais la réalité simulée n'est aucunement le pouvoir du simulacre comme destruction du "monde vrai" et de ses avatars politiques. (...) C'est l'organisation d'un rapport spéculaire de l'opinion à elle-même, identique à l'effectivité du peuple souverain et à la connaissance scientifique des comportements d'une population réduite à son échantillon statistique. Ce peuple présent sous la forme de sa réduction statistique, c'est un peuple transformé en objet de connaissance et de prévision qui met en congé l'apparence et ses polémiques" (Rancière 1995, p. 146).

¹²³ Translation by Li Heron (Rancière 2007).

¹²⁴ Translated by Julie Rose. The original quote says: "la démocratie institue donc des communautés polémiques qui mettent en jeu l'opposition même des deux logiques, la logique policière de la distribution des places et la logique politique du trait égalitaire" (Rancière 1995, p. 141).

“common dispute”¹²⁵ (op. cit., pp. 74-76). The difference at stake is about understanding an order and understanding a problem (op. cit., p. 73) and it opens the understanding of what is at stake as a “distribution of the sensible” (ibidem). As Rancière formulated in *Le Partage du Sensible – esthétique et politique* (‘The Politics of Aesthetics-The distribution of the Sensible’), aesthetic equality relates to how our senses perceive the world (Rancière 2000). The ‘*partage du sensible*’/ ‘distribution of the sensible’ determines the very way by which something in common lends itself to participation, as it is defined as an apportionment of parts and positions by a “distribution of spaces, times, and forms of activity” (Rancière 2000, p. 12). So, from the political formulation of equality, this aesthetic equality is founded by the sensorial activity of each individual itself, producing a self-evident distribution of the sensible as partitions between what is disclosed as being in common and what is not¹²⁶ (ibidem). This aesthetic regard gives place to another formulation of community,

“They form, in this way, uncertain communities that contribute to the formation of enunciative collectives that call into question the distribution of roles, territories, and languages. In short, they contribute to the formation of political subjects that challenge the given distribution of the sensible”¹²⁷

(Rancière 2004, p. 40)

These ‘uncertain communities’ that gather around something that is seen as common might come to terms with an enunciation of who they are as a collective. This act will forcefully be disruptive to what is given as what is assigned as the order of the police and its interplay with the dynamics of the political. We are reformulating the “polemical communities” through the distribution of the sensible, as this collective force might question the distribution of roles, territories, and languages. In the book *Le Spectateur Émancipé* (‘The Emancipated Spectator’), Rancière used as an example an occupation movement in a ‘*banlieu*’, a deprived suburb surrounding Paris (Rancière 2000, pp. 69-70). A group of artists moved and camped together in this place, aimed by an aesthetic experience to reconsider the mass individualism (ibidem). Rancière defines through this example an aesthetic community, that works by

¹²⁵ The “commun litigieux” (Rancière 1995, pp. 74-76) is translated by Julie Rose both as “sharing as a dispute” and as “common dispute” (Rancière 1999, pp. 46-47). This term gives emphasis how in *La Mésentente* the logos itself incorporates a distance between the comprehension of a statement and the understanding of what those words implicate for the order of the assigned places (ibidem).

¹²⁶ Translation by Gabriel Rockhill. As Rancière formulates in the original French: “Cette apportionment of parts and positions is based on a distribution of spaces, times, and forms of activity that determines the very manner in which something in common lends itself to participation and in what way various individuals have a part in this distribution” (Rancière 2004, p. 12). According to the original quote in French: “*Cette répartition des parts et des places se fonde sur un partage des espace, des temps et des formes d’activité qui détermine la manière même dont un commun se prête à participation et dont les uns et les autres ont part à ce partage*” (Rancière 2000, p. 12).

¹²⁷ Translation by Gabriel Rockhill. According to the original quote: “Ils dessinent ainsi des communautés aléatoires qui contribuent à la formation de collectifs d’énonciation qui remettent en question la distribution des rôles, des territoires et des langages – en bref, de ces sujets politiques qui remettent en cause le partage donné du sensible” (Rancière 2000 p. 64).

disagreement (op. cit., p. 70). By sharing and operating such a “distribution of the sensible”, Rancière identifies the emergence of a new kind of *us*.

Through this reasoning, the situated researchers that are engaged in a precarious settlement and are open to the intersubjectivity of the political, questioning their own notions about the territory, its roles and the languages in use, are open to establish a community based upon equality. The architects who were engaged in knowledge and experience sharing practices on building and street making were grounded in the place with a more open horizon, able to be surprised by the chance of encounters that proved fruitful. This way, the collective that gathered can be seen as a community driven by disagreement, ‘uncertain’ in the direction it might take. Communities driven by consensus, as the communitarian media or the situated researchers gathering the differences of the local community to gather a common viewpoint, certainly have a place in the social fabric. As we consider how these researchers and their communities formed at the neighborhood are situated in relation to Academia and society, we can find other useful regards.

3.13 Ethical and Aesthetic allures that bind scientists to the precarious settlement

The researchers of the precarious settlement of 2.º Torrão that have situated themselves in this place have arrived by different forms. The character of this territory, self-built, isolated through decades of the urban landscape of the city and in synchrony with the surrounding nature, creates a singular appeal. An aesthetic allure has formed to some researchers, city dwellers, that were captivated by the disruption that such place offers to their senses. One of them was a master student in arts. Unaware of the existence of 2.º Torrão, she arrived through the dunes and met the settlement and some of its inhabitants. She was captivated to know more about the place, about its public space and its forms of community, and to involve her art forms in that process. Another scientist, the Biomimetics and Energy Systems Master student Ela Zohrevandi, grew up in the big urban Teheran. When she arrived at 2.º Torrão, according to her words: “Felt like I saw real life” (Ela Zohrevandi, 2020). She could feel the elements: the water, the wind, the sun, the chirping of birds and the sounds of neighbors. Zohrevandi felt a very specific appeal in the shapes that the self-built houses take and the design of the streets meeting the Estuarian waters and the pine woods. It is a dynamic place, its forms keep changing, adapting, and she could always find something new to appreciate. After occupying such territory, there were situated researchers that developed a taste for vernacular architecture, as a more grounded and local-based form of relating to the space. These students who have been portrayed under the aesthetic allure haven’t been before in a precarious settlement. Their academic circles haven’t had no one with such a social awareness on their topics of research. Both had to find ways to bring closer their expertise to the place they have chosen to research about.

2.º Torrão, situated at the social margins with all its politics of fear in mass media, produces another kind of allure, that is ethical by its nature. The emergence of an ethical distinction between what is being seen in mass media and reality takes form by an action. These researchers that arrived by this allure come to see with their own eyes, hear with their own ears, to be engaged and available to others through their presence. In relation to the stories of refuge and solace that this place holds, a group of black researchers has arrived to hear their stories, to be part of that intersubjectivity, to witness the stories of our brothers and sisters, so similar in their strives to our ancestors.

The ethical allure of social participation in scientific research is also embodied by scientists engaged in social practices of production of knowledge. Their political subjectivation as researchers is already ingrained with the heat of sharing at least a part of their protocol with these others. Working with the social margins becomes part of their political awareness, integrated by a hegemonic narrative or actively consolidated as a critical counter-hegemonic perspective. These standpoints can be either situated with their academic community, that is to say that they might share the same beliefs and ideology with their professors, tutors, and colleagues or, on the contrary, be placed in disagreement with the Academia and the social groups they belong. Two of the architects that we have considered before, Gonçalo Spínola and Marco Tavares, had developed a counter-hegemonic standpoint that was in disagreement with their school. As Spínola expressed in a 'field philosophy' interview,

"What I feel they are trying to do is to build battle tanks to enter the job market.
(...) I am not a cog in a gear¹²⁸"

(Gonçalo Spínola, 2020)

As Spínola and his colleague Tavares claimed 2.º Torrão as a symbol, a territory where architects didn't intervene in its design, it signified their resistance to their academic community. Spínola didn't accept to be another cog in the war machine. They enacted counter-power practices such as re-writing and re-framing the statements and questions from their tutors that were supposed to guide their fieldwork. They considered that their tutors weren't asking the questions they needed to be asked, and that their statements weren't aligned with a proper approach to researching a precarious neighborhood. Their experience wasn't just about their practices and experiences in the settlement, but what they took from that process to within the academia.

The social researcher Morales- Bernardos and I arrived to 2.º Torrão with an ethical allure. I was engaged by this space by experiencing its social segregation and unique positioning to its other neighboring settlements. To Morales-Bernardes, to occupy 2.º Torrão was an embodied experience of the concept of urban periphery. She was spending her time in

¹²⁸ My own translation from Portuguese. According to the original: "Aquilo que sinto que tentam ou que é tentado é montar tanques de guerra para entrar para o mercado de trabalho. (...) Não sou uma roda dentada numa engrenagem".

the neighborhood while designing the aims of her doctoral research application. Later on, as she was accepted in the doctoral program she was applying for, she experienced life in two other social peripheries of European capitals. Her research, strongly engaged with others in the sharing of power, affected her political standpoint. This also implied her disagreement with other approaches she experienced from Academia, as these weren't implicated enough in the transformation that comes from practice.

The allures that bring to a precarious settlement scientists that enact a situated production of knowledge can bring disagreement and social transformations elsewhere, in other places, as within their academic units or among the local power. Rancière, just after the upheaval of May 1968 in Paris, would come to articulate a critical accusation on how ideology was present in Science: its education was attached to a class appropriation of knowledge¹²⁹ (Rancière 1973, p. 49). Nowadays, social practices of participation in scientific research are considered to be able to question the epistemic and political hierarchies (Ogien Laugier 2017, pp. 92-93). As politics tends to reinforce an historical construction of the public as ignorant, these forms of public participation can be appreciated as a form of collective intelligence (op. cit., pp. 18-19). As an example, the influence of one of the architectural interventions described in this chapter had a direct influence on the dynamics of local power¹³⁰, but how much were the voices from the margins really heard and integrated into public views remains open.

The aesthetic and ethical allures here described were emerging from the 'field philosophy' interviews taken. They are set as dualities that serve just for the understanding of the positioning of the situated research and the relations established by the situated researchers and their fieldwork in this thesis. These allures can intertwine, as scientists can experience both kinds of attachments to the precarious settlement. In relation to these allures and the mode of scientific research that was claimed, it is valuable the claim for a 'slow science' by some of the situated researchers of 2.º Torrão, as time and space for reflection is needed. As the rhythms of fast science create an opposition to the time needed to create relationships and build something with the communities one works with, some of these scientists occupied this territory with a conflict of priorities and questioning their own agencies as researchers, as a specific speed is imposed on them¹³¹.

¹²⁹ According to the quote (my translation): "The University does not teach "science" in the mythical purity of its essence, but a breakdown of scientific knowledge articulated into *objects of knowledge*. The transmission of scientific knowledge does not arise from the concept of science. It is part of the *forms of appropriation* of scientific knowledge, and these are forms of class appropriation" (Rancière 1973, p. 49). The article where this quote was extracted from was critically attached to Rancière's critics towards Althusser and the distance he took from Marxism. Years later, in *La Mésentente*, Rancière would come to place the central concept of 'class' as a "terrorist figure" inserted in the logic of politics (Rancière 1995, pp. 122-123).

¹³⁰ As an example of situated experiences that imply transformations with the local power, we have seen above how engaged researchers in precarious settlements can take roles in close relation to the state or municipality, mediating work, as surveys, or perceptions that can inform political action or policy- making (Alves Falanga 2019, pp. 16-17). More on this in the section 'The troubled connection to central power: the rehousing plan' in this chapter.

¹³¹ As the social researcher Morales- Bernardos stated in a field philosophy interview in 2020: "I couldn't be so connected to the day-to-day of what was happening [with the communities she was a part off]. (...) And I had to

CHAPTER 4

THE NEIGHBORHOOD'S CITIZEN SCIENCE¹³²

In this thesis, the value of social participation in scientific research from the margins is questioned. An approach in 'field philosophy' has been taken for this regard, situated at one precarious settlement named 2.º Torrão by the margins of the Tagus Estuary, facing the city of Lisbon. In the first chapter, we were introduced to the methodology of 'field philosophy' and the problems it entails, as an articulation between an empirical fieldwork and philosophical research. The experimental 'field philosophy' implemented by this research involves a long immersion in 2.º Torrão and the use of empirical tools of research, such as ethnography and interviews, directed to both the local community and the scientists who have situated their research in this place. In the second chapter of this thesis, we were introduced to the neighborhood of 2.º Torrão and its situated scientists. For a better understanding of the nature of situated science, certain contrasts were set: between communities driven by consensus and communities driven by disagreement, or between aesthetic and ethical allures that bind the attachment of scientists to the precarious settlement. A particular relevance was given to architecture, seen as precious by locals in need of intervention in public and private spaces. In this same chapter, we were introduced to some problems that have emerged with the situated sciences, such as the relations set to the state and the city and the replication of the hygienist discourse. The politics of fear, defining 2.º Torrão as a dangerous 'no-go area', was set by one of the situated scientists. The portrayal in mass media of precarious settlements as dangerous has been used before, but it is relevant to how the city and mass media weaponized the sea level rise by climate change to provoke fear. In this chapter, we will be introduced to one project situated in this territory for eight years that dealt with the risk of coastal flooding and the considerations on epistemology and political philosophy that this work called for.

make this decision to turn off. What was totally contradictory to me. (...) This was a defining moment for me: For whom was I doing science? Whether it was to transform [her social reality] or was to produce for the academy. This moment really created a re-questioning of what my role really was" (my own translation from Portuguese).

¹³² This chapter was partially adapted from two articles that I published. "*Ciência Cidadã durante a Pandemia de Covid-19: Iniciativas e Desafios*" (Duarte 2020) informed the sections that develop an introduction to citizen science (4.1 and 4.1.2). And "*Novos Decisores – entre a terra e o mar*" (Duarte Arquizán 2021) informed the sections introducing the citizen science project 'New Stakeholders – Sciences' (4.2, 4.2.1 and 4.2.2.).

4.1 The participative turn in scientific research

A participative turn began to be claimed in scientific research, especially by the sheer numbers of people involved in data sharing or by data transformation through the developments of technology. To understand what this movement is, we shall start by classifying different practices and how it is characterized the engagement of these others.

Crowdsourcing in scientific research was first popularized in 1999 by UC Berkeley's SETI@home project. In this case, the computing power of personal computers was used to process information from radio telescopes in the search for alien signals (Hand 2010, p. 685). So, here there is no active involvement of the people involved, just lending their personal computers' processing power to process data, what is also termed distributed computing, or crowdsourcing (Howe 2006). Since the SETI@home, several universities and research centers have built infrastructures that could support distributed computing for various projects. Researchers whose research critically depends on the processing of information have gradually been seduced by the recruitment of an anonymous crowd of volunteers.

Another way of participating in scientific research that is becoming more common from day to day is through online games, such as Eterna or FoldIt. Research progresses on these platforms based on a playful strategy, also known as gamification, in which volunteers play as a team or individually. While playing, they operate ways of solving jigsaw puzzles. At a later time, after the inception of FoldIt, its creator, David Baker, made his intention clear: "There is this incredible amount of human computing power that we are just beginning to capitalize on" (Hand 2010, p. 685). The heuristics of these scientific games are built from human cognition capacities. These crowdsourcing and gamification platforms are part of a growing movement of participation in scientific research that has taken shape since the turn of the twenty-first century. Heterogeneous, driven mostly by physical and natural sciences, these platforms are recognized by the generic term citizen science¹³³. In synchronicity with an increase in scientific research that deals with a large amount of data (the so-called data-intensive science), the majority of these projects are led by scientists and aim to collect or process information (Bonney et al. 2009). In the online game FoldIt, players' attempts to solve puzzles are part of a protein modulation strategy. Starting from the building blocks of proteins, from a linear chain of amino acids, the challenge is to solve the final structure of the protein, the way that it is arranged in space. Genetic information allows us to resolve the identity of the amino acids, translated on the screen by a certain form that each one of these building blocks gets, but not the final arrangement that the protein takes. Computer modulation is the method used in this game to search for an answer. On the user's screen, a model of the investigated protein allows its manipulation. Solving a protein puzzle in FoldIt serves as a hypothesis for the protein's final structure. Other FoldIt puzzles also serve as an attempt to design proteins from a chemical

¹³³ Other common terms to call citizen science are community science, civic science, participatory science, or action research, crossing with different traditions of social participation. The term citizen science is usually related to participation in biology, ecology, and conservation; in collecting information from geographic information and in social sciences and epidemiology (Kasperowski Kullenberg 2019).

substance that is known to have a high binding affinity to the protein being investigated. Eterna is a game that, based on similar principles, operates as a puzzle, not of proteins, but of ribonucleic acid (RNA) molecules. Winning strategies in both FoldIt and Eterna can then lead to drug development. In other words, all puzzle solutions that are found by players can integrate the clinical and industrial path of developing new drugs. When crowdsourcing proposals first appeared and, later, online scientific research games, their scientific legitimacy was questioned. Citizen science, since it was identified as a trend, has resulted in a reduced number of publications. However, digital-based platforms aimed at data collection or processing (as is the case of the games discussed here, FoldIt and Eterna) have led to a considerable increase in scientific publications (Kasperowski Kullenberg 2019). Along this path, two groups of FoldIt players had relevant co-authorship in the discovery of an ideal protein in HIV/AIDS research, and, from Eterna, the first research paper authored entirely by citizen scientists has been published (Khatib et al 2011, Wellington-Oguri et al. 2020). Not only do these games have the capacity to engage large numbers of volunteers and produce peer- validated knowledge, but they are also progressively recognizing and legitimizing citizen scientists.

From the great diversity of approaches to social participation in scientific research that is considered under the term of citizen science, there is a great abundance of technoscience. In research areas such as astronomy or biotechnology, a large amount of data could be processed if more human cognition was available. Crowdsourcing came up as a “natural solution”, just like the citizen science projects that engage with the highest number of people, to deal with such a “data deluge” (Interagency Working Group on Digital Data 2009, p. 6). It’s in this light that the utilitarian drive for engagement of citizen scientists in the onset of online games, as the ones mentioned above, can be understood. Both cases, though, deal with a particular part of the scientific research, the transformation of data by manipulation, to find a solution to a puzzle.

Data collection is another phase of scientific research that is open to social participation and that is common to find among citizen science projects. A particular case of interest in such projects is the involvement of *citizens as sensors* for different factors that might be found in the environment (such as air pollution and smells among the most popular). Such approaches are very popular as emerging forms of citizenship in smart cities but are also appropriated as forms of counter-power by organized groups of citizens that use these technological tools to ascertain a scientific proof of a wrong in their territory and demand a certain change (Gabrys 2014; Gabrys 2019). The perception of citizen science as a counter-power is, moreover, very much inscribed in communities of practice of citizen science. In agreement, the sociologist Alan Irwin had defined citizen science as scientific research developed at least in part (and even entirely) by concerned citizens about their territories (Irwin 1995). Localized citizen sensing, of citizens as sensors in a specific physical territory, relates to this communitarian sense of citizen science as well as to a territoriality, as it can be understood as a gateway to relate to local-based knowledges or indigenous knowledges (as it is the case with Roturier Roué 2015).

4.1.2 Looking for the extreme in citizen science

With the development of citizen science, there is the production of research that not only focus on the data collected or worked upon but also on the very nature of these plural initiatives, at an intersection between ethics, science, and politics. One can find this research agenda in the field of science and technology studies, as a plurality of practices is often seen in opposition to each other (Kasperowski Kullenberg 2019). Without denying the relationship between science and power, to which Foucault so stridently drew attention, these approaches focus mainly on the way in which knowledge and power are articulated. Muki Haklay, geographer, is one of the most popular faces of Europe's growing citizen science community. In 2013, he proposed a model for understanding this phenomenon based on the gaps in perception between the public and the scientists (Haklay 2013). The higher the level of citizen participation, as shown in Figure 1 – A, the more intense the direct involvement between the scientist and the citizen. The inspiration for building this approach was another model, the 'ladder to social participation'. Represented in Figure 1 – B, this last model was produced as a political statement at the end of the sixties of the last century (Arnstein 1969).

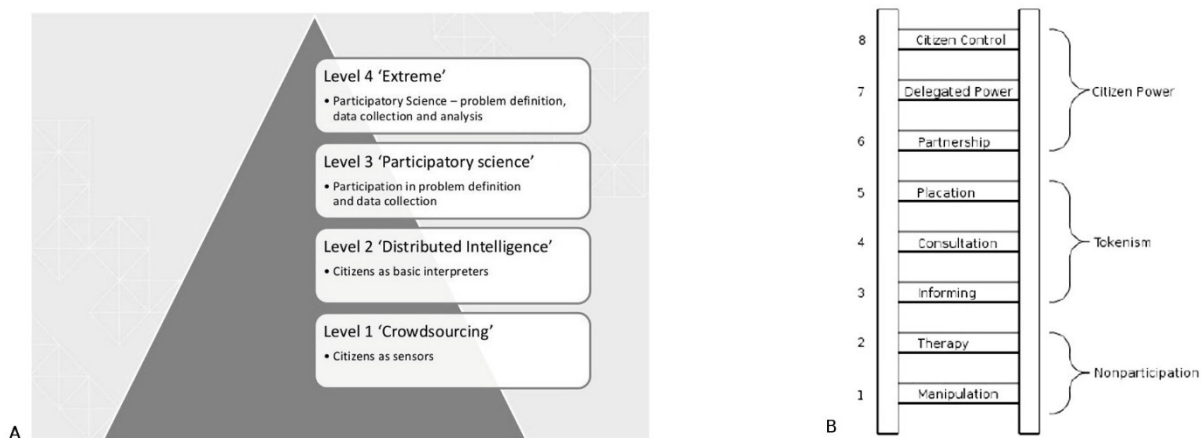


Figure 1 – Scale of power in citizen participation. A: On the left, this model developed by Haklay represents the hierarchical involvement of citizens in citizen science' projects (Haklay 2013). Level 1 is crowdsourcing. With minimal "cognitive engagement," volunteers only give resources, such as specific sensors on their computers to collect information or computing power to process information (as in the previously discussed crowdsourcing tools); Level 2 is called 'distributed intelligence', by which the cognitive resources of individuals are used by scientific research (as is the case with the aforementioned games FoldIt and Eterna); At Level 3, participants define the problem and consult experts to collect data; Finally, Level 4 of collaborative science is 'extreme' in that participants can be involved in the analysis and in the publication and use of results. B: On the right side, the ladder developed by Arnstein is an analog model of citizen participation, made with eight ladders distributed across three levels (Arnstein 1969). The bottom ladders are: 1) Manipulation, and 2) Therapy, and relate to strategies used to indoctrinate or "cure" participants. These are classified as "non-participation". The next stairs are: 3) Inform and 4) Consult. These ensure that there is no change to the status

quo and are therefore classified as “tokenism”. Ladder 5) Conciliation refers to the case in which participants can advise, but those in power maintain control of the decision-making. At the top of Arnstein’s ladder is “citizen power.” Ladder 6) Partnership allows negotiation. With 7) Delegation of power and 8) Citizen control, citizens manage the initiative.

The ladder to social participation eventually became an impactful and influential model produced by Sherry R. Arnstein (Arnstein 1969). Produced in the aftermath of riots and social uprisings in the United States of America, it is based on the principle that “participation without redistribution of power is an empty and frustrating process for those who do not have power” (ibidem). The tone of this work is supportive of President Lyndon Baines Johnson’s liberal welfare state. It is by facing the inequality between black and white America in 1968 that Arnstein justifies (as she herself formulates) such a “simplistic abstraction”: the have-nots really perceive the powerful as a monolithic “system” and those who are entitled to power actually see the dispossessed as a sea of “those people”, with little understanding of the differences of class and caste among them” (ibid.).

Arnstein saw her work in her time as a provocation, a need to shake up the status quo regarding work practices and community involvement. Haklay’s perspective is not naive, either. These models, as scales of power distribution, clearly integrate a moral valuation and an assumed passion for participatory democracy. For Haklay, the definition of extreme citizen science at the top of a pyramid is implicated in his practice of mediating participatory research projects¹³⁴. So Haklay’s model proposes at the top of the pyramid citizens who are doing the trickiest aspects of research, such as defining the problems to be researched upon, analyzing data, and communicating their research. Other models of citizen science also develop classifications according to the type of volunteer engagement (Bonney 2009). According to it, projects can be classified as contributory (where the citizens can contribute with data); collaborative (where citizens can contribute with data and take part in the project design, analyze data, or communicate results); and, mirroring the top of Haklay’s pyramid, co-created projects, which engage actively researchers and non-researchers in a regime of co-creation of scientific research. This way, citizens are involved in most or even in all the steps of the scientific process. Still, ascertaining a level of citizen control in scientific research that could mirror the Arnstein ladder model can still be difficult to find. Taking the previously mentioned citizen science game FoldIt, there are accounts that praise the “constant feedback” between developers and players (RAND 2017, p. 4). Among the motivations of FoldIt participants, the possibility of designing and producing new drugs is quite popular, despite the work on solving puzzles being well upstream of this step (ibid.). Still, Curtis’ doctoral research on public participation in science, which conducted doctoral research into online citizen science projects, focusing on three participatory projects, including the FoldIt game, indicates something else

¹³⁴ Muki Haklay’s academic path defined itself as towards interdisciplinarity and co-governance, by researching and employing tools that allow decision-making to be shared with different communities. Contemporaneously, Haklay co-directs a research group at the Department of Geography at University College London called ‘Extreme Citizen Science’. He is also a leading figure in the search for a definition of citizen science in Europe, engaged with the ‘European Citizen Science Association’.

(Curtis 2015). Curtis essentially worked on player motivation and the possibility of true collaboration. There is community mediation work recognized in citizen science in these networks: these are professional figures, community mediators, and a series of Web 2.0 tools, such as forums, IRC (Internet Relay Chat) and blogs that facilitate communication between players, programmers, and scientists (Curtis 2015, p. 40). Within the citizen science gaming scene, FoldIt is perhaps the one that invests the most in its community. However, in general, Curtis concludes that “the ethos of leadership by experts and one-way communication still predominates” (idem., p. 277). In other words, despite the entire structure of these online communities, which recognizes and facilitates communication between different actors, decision-making remains limited mainly to technicians and scientists.

4.2 Turn to co-creation in citizen science: The New Stakeholders – Sciences

The ‘New Stakeholders – Sciences’ (‘Nouveaux Commanditaires – Sciences’, NC-S) Program is a movement for social participation in scientific research. The objective is to guide and encourage communities of non-scientists to dialogue with researchers and co- create open questions. This approach was inspired by a related program of participation in the arts of the private foundation ‘Fondation de France’, named ‘Nouveaux Commanditaires’. With the support of its more than two decades of experience, NC-S began in 2013 with the social cooperative ‘Atelier des Jours à Venir’. This program stands out from the rest of the panorama of participation in scientific research by working in a regime of co- creation, including citizens in the conception phase, to identify the problem that the research then addresses. NC-S was implemented on eight nodes in Europe, the majority in France. These projects had the same objective, framework, and architecture, with the same design for their project phases. But each of these nodes is also unique. Firstly, due to its temporality, in the sense that the same project phase can take six months in one place and three years in the other, which is atypical in this type of citizenship- based projects, as the execution framework that establishes the project's temporality is negotiated. The opportunity to be able to work with such flexibility allows, in each of these eight NC-S sites, a high level of reflexivity, in which those who participate can collectively update and redefine the project itself. Due to the dynamics established between local decision-makers, scientists, and mediators, a format and rhythms specific to the exchanges and decision-making that mark these citizen science processes are also established.

A NC-S project was in 2.º Torrão, where it ran for eight years and was mapped as one of the few co- created citizen science projects in Portugal¹³⁵. It had its genesis in 2013 with

¹³⁵ The identification of the ‘New Stakeholders – Sciences’ project as one of the few that deals with co-creation in scientific research in Portugal was done by the historian of science Cristina Luís (Luís 2022). The projects under analysis, though, were the ones that were identified by the umbrella term of ‘citizen science’, that meaning that there are practices of co-creation in science that don’t claim to be ‘citizen science’ and weren’t considered in this analysis. Even considering the territory of Trafaria and Caparica we can find other initiatives in the past that used practices of co-creation, but that weren’t considered in Luís’ analysis (more on the section

activities of science communication and art education supported by people from a popular assembly in a typical neighborhood of Lisbon, the 'Assembleia Popular da Graça e Arredores', where I was myself included. The idea of engaging the community of 2.º Torrão into a process of grassroots scientific research came from my own practice as a researcher, as I mapped NC-S as one of the few collectives that had experience with community engagement and citizen science in Europe. It was in this context that 'Canto do Curió' cultural association was formalized, being dedicated to social participation in sciences, arts, and politics with 2.º Torrão and other neighboring communities. In 2014, mediators from 'Atelier des Jours à Venir' joined us in the first exercises in the neighborhood. In this first phase of a possible scientific research project, questions were raised.

4.2.1 Questions wanted

The first community intervention of the 'New Stakeholders – Sciences' (NC-S) in 2.º Torrão began energetically, with the meeting of two groups, on a sunny winter afternoon. On one side, mediators and facilitators, including a local, and on the other side, young residents who used to occupy that space. Other outsiders and I already had a relationship with the place, developed through previous work with children in the neighborhood¹³⁶.

The first NC-S dynamics were centered on questioning activities, which can be classified as non-formal educational tools or game dynamics¹³⁷. In one of these games, participants were divided into teams whose objective was to ask questions. The questions were asked about what surrounds them, what bothers them, and what intrigues them. From this game we could, from each open question, identify possible inquiries, a process that took its proper time, being developed in several weekend sessions. As we had this expectation of a possible research process that could open itself up from these exercises, in parallel, it opened a horizon of what was meaningful among the participants. The following work of getting an overall view of all the questions asked in all the sessions, classifying them according to categories and selecting what was meaningful was arduous work. It required a focus that wasn't always

'On the margins' on chapter 3). More about the practices and major events of the 'New Stakeholders – Sciences' can be found at the 'Annex 2' at the end of this thesis.

¹³⁶ The community work developed was based on a process of shared decision-making and interactive planning through the search for Freirean generative themes. All activities developed arose from needs or proposals for action expressed by participants during the fieldwork. The sense of commonality that this work intended to work on can be appreciated as close to the first forms of action anthropology, from 1948's 'Fox Project' at the Chicago Field School (Willigen 1993). "Generative themes" are a popular concept in Paulo Freire's pedagogical practice. Through the search for immersive contact between different actors from different cultures, Freire developed a methodological proposal to encode and decode elements based on a common, "generative theme" (Freire 1975). Our approach was inspired by Freire's written word and, especially, by a case study developed by Blikstein who used technology as a tool for Freirean emancipation in Heliópolis, the largest *favela* in São Paulo, Brazil (Blikstein 2009).

¹³⁷ The game dynamic that was most played was one that was adapted from a classroom protocol (Rothstein 2011).

possible, given the pace of the neighborhood. Still, the exchanges remained lively, always open to discussing other topics regarding the relations there established. Figure 2 shows the result of this first selection of questions.

Who is most influenced? Women or men? How does racism originate? Why is there racism?
What is being racist? Do people who visit the 2.º Torrão like the people here?
Why do people fear 2.º Torrão? Why is the animal-lover a good person? What dreams can we achieve alone and what dreams need a group of people to be fulfilled? Why are there social differences? Is the human being good or bad by nature? Is it possible to live in a world without war or conflict? Why is there a desire to kill inside us? Are there more bad people in 2.º Torrão than elsewhere? Is it possible to live without technology? What unites the people who are here in the neighborhood? Is it possible to live without money? Why was it that the white race had a taste for exploring the African race? How are prejudices born?
Since when is the world a world? Do people living in 2.º Torrão like the people who visit the neighborhood? Does the bush and the sea calm the experience of living in 2.º Torrão? What are the dreams of the people of 2.º Torrão? Why is 2.º Torrão so quiet?
What is the feeling that leads us to ignore others? Will the Sea one day eat 2.º Torrão? How does the conscience of each one contribute to life in community? Is addiction more physiological, social or cultural? Why is personal freedom seen by others as madness? Is there life after death? How negative is homosexuality in the eyes of God? Why do we work?

Figure 2 – First selection of questions from the ‘New stakeholders – Sciences’ of 2.º Torrão. After some activities to generate questions together, on the afternoon of April 12, 2014, these questions were selected by the local stakeholders. On the same afternoon, categories were also found by which these questions could be distributed (questions with answers/ open questions; science/ art/ philosophy; global/ local) and relevant themes.

Early on, the most critical point of this approach became evident. Everything depended on the group being able to have the necessary attention. If the conditions existed, the work progressed rapidly: the participants demonstrated keen perception and extensive cooperation. Elements outside the neighborhood carried out the needed continuity work for the project, collecting material and presenting proposals. As the common work progressed, from formulating questions to categorizing and selecting the questions asked, more concentration and cooperation were demanded. However, it was up to the mediators to go in search of the ‘others’, to look for advice that would allow them to transform the method, adapt, and make planning during the project interactive.

Once the questions were selected and categorized, it was necessary to choose one that, as a Freirean generating theme, would serve as a focus from which initiatives could be developed. The decision was polarized. The group of young locals wanted to promote a popular

consultation in the neighborhood about which question to choose, so that their choice could be representative. The mediators, though, reinforced that, for the project to continue, it was only necessary to establish a group of decision-makers who did not need to represent the whole neighborhood. In extremis, two conceptions of democratic participation in relation to the neighborhood were at stake: one, led by young residents, of representative democracy; and another, defended by the facilitators, of direct democracy¹³⁸. We were in a deadlock.

M., one of the group leaders of 2.º Torrão, agreed to meet with the facilitators on the afternoon of April 26, 2014. The chosen questions had already been discussed with the larger group, and a difficult agreement had been reached on the three open-ended questions that would be more meaningful. M. selected the question that he thought would be most interesting, not only for him but for the neighborhood: "Will the Sea 'eat' the Torrão?" If there is a study that predicts sea level rise, this knowledge could be very useful. M. added that, for those who live there, this knowledge could be used as a political tool to demand the inhabitants' relocation to the local city council. However, according to the discussion, faced with this possibility, the neighborhood's residents were divided between those who preferred relocation and those who would want to stay there. As an alternative to M.'s suggestion, the result of the collaborative research could be used, not to fight for relocation but to seek alternatives to strengthen neighborhood protection measures and mitigate the risks to which it is subjected.

4.2.2 Encounters between the land and the sea

The invasion of the land by ocean waves' overtopping became the generative theme of the 'New Stakeholders – Sciences' (NC-S). After choosing the topic, the project's mediation team contacted professional scientific researchers, sending letters written in 2.º Torrão during encounters between mediators and the local leader M. It turned out that in previous years, a growing body of research had been developed on coastal erosion on the Portuguese coast (Santos et al. 2014). The truth is that, even with the advancement of theoretical models to understand erosion in Costa da Caparica and the considerable public investment that has been applied in artificial sand filling on those beaches, little is known about the morphodynamics next door, in the Estuarine coastline where 2.º Torrão is located. Considering the action of climate change, such as rising sea levels, and the greater probability of waves' overtopping during

¹³⁸ In reality, the NC-S program put into practice here, like the related program applied in the field of arts, the 'New Stakeholders' (*Nouveaux Commanditaires*), is concerned with the return of the study or final work to the community in which the decision makers are involved. This approach creates a direct relationship with a group of actors (the stakeholders) and involves other institutions downstream of the command/decision of the work between citizens and artists/scientists. François Hers, creator of this approach in the 1990s, recognizes the protocol put into practice as a form of "initiative democracy". This is a vision of the functioning of democracy based on mediated access to knowledge, dependent on a return as a donation and based on a dynamic of social disagreement (Hers 2019).

extreme events, such as storms, the territory of 2.º Torrão was, in fact, in a risk area, which could be a reason to recruit political interest to tackle the problem¹³⁹.

Meanwhile, there was a renewal in the project team. Mediators and facilitators lost continuity of work with the initial group of decision-makers. The facilitator, who served as a local link was disengaged from the project, and the local Residents' Association member who was collaborating expressed little interest in participating. As our stakeholders repeatedly stressed, it was important for us, as outsiders, to listen to the rest of the neighborhood and have a community base for the initiative to be developed. We, as mediators, decided to go out and propose open days inside the residents' association headquarters, where a challenge was included. The aim was to make known the development of the project and, in addition, to survey the population on their perception of the extent and relevance of the problem of the sea invasion. For this purpose, a visual display was prepared, consisting of several maps of the neighborhood and media equipment needed to collect information. There were many lively discussions, but there was no adult who was available to do these mapping activities. It was a group of children from the neighborhood who were motivated to take care of the research project.

From that moment on, the children took a central role in the development of NC-S. They were the ones who led, during 2015, the process of consulting the inhabitants of their neighborhood about their relationship with the sea and the relevance of developing research work on the selected question (see Figure 2 - B). The children were the ones who, in a second cycle of data collection in the neighborhood in the following year, assumed an independent role of collecting photography and video (see Figure 2 - A). It was also this group of young friends that gave the mediators the possibility of maintaining a meeting place in the neighborhood and a working base in the home of one of them, where related material was saved. The established dynamics followed the same philosophy of social inclusion and respect for others that, from the beginning, guided NC-S. Likewise, the methodological axis of shared decision, interactive planning, and the practice of feeding the generating theme were maintained, seeking to code and decode concepts among the group. It is believed that the path established between all

¹³⁹ The natural risk of sea flooding in 2.º Torrão was identified by the Portuguese law. The implementation in Portugal by the decree 159/2012, of July 24th., of the 'Coastal Development Plan' (in Portuguese, the '*Plano de Ordenamento da Orla Costeira*' - POOC) highlights the national interest in the development of "special territorial plans that aim to safeguard objectives of national interest with territorial impact and establish regimes for safeguarding natural resources and natural values and a management regime compatible with the sustainable use of the territory". In the same year, the Decree-Law 239/2012, of November 12th., that reviewed the Decree 166/2008, of August 22nd., includes in the 'National Ecological Reserve' (the '*Reserva Ecológica Nacional*' - REN) the 'zones threatened by the sea' (the '*Zonas Ameaçadas pelo Mar*' – ZAM), territorial units with "high susceptibility to the occurrence of floods due to ocean overtopping". Still, the effective territorial planning in Portugal is dependent on a local plan devised by a more local administration, belonging to the city. To this day, in Almada (where 2.º Torrão is located), there isn't a development plan ('*Plano Director Municipal*' – PDM) that takes into account the natural risks of flooding by the sea.

contributed to a process of transformative learning¹⁴⁰ and to promote (Freirean) social emancipation¹⁴¹.

The NC-S' citizen science was developed in phases. The data collection led by the group of children acting as stakeholders in NC-S motivated a more systematic study during 2016. Based on the accumulated knowledge, the project carried out an anthropological study dedicated to a better understanding of the social reality of the neighborhood and its interconnection to the question raised (study coordinated by Tatiana Arquizan) and a preliminary research on coastal erosion (coordinated by Rui Taborda, a geologist expert in coastal erosion). In the field, the team of mediators was expanded to also include a youth local leader. The field work privileged two approaches: interviews, as those that the children had conducted, but with a stricter protocol and seeking the representation of the interviewed individuals. In a second approach, the project did not seek individuals and families in their homes but took instead periods of residency in popular meeting places, allowing the comparison of information and compiled data. In this case, it was very useful to adopt visual tools, as the 3D model that was used in the interaction represented in Figure 2 - C. During this fieldwork, information was collected on the morphological evolution of the coastline, on events of accumulation of sand and ocean over-topping at the coast (see Figure 3).

¹⁴⁰ By which apprentices are an active element in their learning process. More about this concept of transformative learning in Ruiz-Mallén et al. 2016.

¹⁴¹ As it was shared and discussed among peers engaged in co creation within the NC-S network or within the Portuguese network of science communication (Santos Valfigueira Cão 2015).



Figure 3 – ‘New Stakeholders – Sciences’ of 2.º Torrão: some representative photographs of the preliminary research process. A - Tavares was one of the interviewees. He is behind the counter, the owner of the café. He and João cão Duarte, one of the facilitators, are looking at B., one of the children who led this project and that is taking a picture. Coffee customers know that when they enter this place, they should take their time. Tavares is the oldest Cape Verdean and has many stories to tell. His interview was the longest of this research, taking more than four hours (photography by Céline Lixon); B – The young C. interviews T. with the support of the whole team, including the mediators, as the team was looking for interviewees that could be questioned about their relation to the sea. C. knew T. and was specifically looking for her because he knew beforehand that there was an interesting testimony there to be taken from his

neighbor (Photo NC-S). C - J. discusses the changes in the coastline that he witnessed. Located at the center of the image, J. leaves his testimony with mediators Jelson Oliveira and Joana Trindade about how the shoreline has changed over time. To facilitate the collection of information and public discussions, the audio recorder, which appears in Jelson's hands, and the 3D model of the neighborhood, which J. uses in his explanation, were useful tools (Photo NC-S).



Figure 4 – Sea flooding events according to reports of residents of Segundo Torrão. The citizen science project 'New Stakeholders – Sciences' in 2.º Torrão has collected information about sea invasions throughout the life of residents in the neighborhood. In the figure is represented the invasion of the sea in blue and the sea flooding sites, as it was later presented locally to inhabitants. The oral and written reports, with the help of maps and the 3D model, allowed us to recognize the points marked in the figure, with the indication of the place invaded by the sea and the year in which the sea flooding occurred. All reports include more specific information, including more detail at the time of each event, whenever possible. The collection of information during this research process also includes sketches and photographs, such as those shown on the left of the figure. The sea flooding of 1977, represented in these three photographs, was the one that brought more people together and allowed for meaningful memories of 2.º Torrão to be shared.

4.2.3 When the sea eats the land

The collaborative research process at 2.º Torrão during the summer of 2017 revealed a sea invasion in 1977, identified in three of the photographs in Figure 4. In 2014, at the time of the onset of the participative research of 'New Stakeholders - Sciences' (NC-S), a storm had hit the coastline, Hercules, with no substantial damage to the households in 2.º Torrão, but with damage done to the protective barriers in the sea front¹⁴². It was from that concrete sense of danger that NC-S had developed.

The pictures recovered by the community during the preliminary research of NC-S showed times of struggle and distress during an overtopping by ocean waves in 1977. A portion of 2.º Torrão had been flooded by the sea, and several houses were taken by the waves. Neighbors had lost all they had. Lau, who lived his life in-between the popular neighborhood of Lisbon *Mouraria* and 2.º Torrão, was there and was using his photo camera to report the incident. This sea invasion of 1977 revealed itself as a significant event for 2.º Torrão. Three years before, a large fire had hit the neighborhood. Many houses were then destroyed by the fire and the recovery from that drastic episode was slow. In 1977, several of those houses had been rebuilt. One of the community organizers, Aurora, had a big property, including animals such as chickens and rabbits. Her whole house was taken by those waves. There were several men who worked as bakers at that time in the neighborhood. The houses in which they lived were also taken by the waves. These people got together after the tragic theft by the sea. A group of women from the east wing of the neighborhood also joined. These pictures were shared and talked about during the following months to the sea invasion, but other struggles ensued. These moments only saw again the light of day with the NC-S participative research process. Another neighbor who was present at the incident, Mimi, hosted these moments of community at her coffee place close to the seafront of the neighborhood. Copies of Lau's pictures were taken to the wall of her coffee place, where they continue to be displayed to this day. To Mimi, as to other neighbors, to talk about sea flooding was an emotional reckoning, as the storms served as a semiotic index to her own past experiences.

It was the fall of 2002, and the nighttime had arrived. Mimi, who lives by the seafront, had just put her small baby to bed. Outside, she had a small yard. A tree was there. In it, hanging, was a small cage where she kept a bird, a parakeet, that was singing at that minute. Attentive, she decides to go out to her yard and look at the sea. As she opened the door and came outside, she didn't have time to think. A wave, coming from nowhere, hit her. "As I came from inside the house, I couldn't understand. I can only say that the wave pulled me. And I'm not thin, you know?! The wave pulled me. The parakeet's cage, the whole thing, disappeared in the air. Vases, everything I had in the yard. And I went with the wave as it rolled. My luck was the

¹⁴² The Storm named Hercules, in early 2014, impacted the whole coastline of Portugal (Santos et al. 2014). The area of 2.º Torrão had been affected by wave overtopping in the sea front, with the water arriving to the houses on the sea front. No material damages had been identified, but inhabitants had registered the event. The preliminary research had identified other, more significative, sea invasions in 2.º Torrão in the previous years (as exposed in Figure 4). The sea floodings were a problem affecting the neighborhood on a regular basis.

tree. Because, as I was pulled, my shoulder hit the tree. As my shoulder hit the tree, I was sent to the gate. It was my luck. I could have been gone” (Mimi, 2016). As Mimi grew older, she couldn’t shake off that reaction of fight or flight every time she heard the waves under her house and at her door. The sea doesn’t frighten her, but she knows fear and prepares her family for a flight in case the waves visit again. In case the sea will invade her house again, she gave instructions to her teenage son to run away with the baby jumping through the rooftops and that he should leave herself behind. Years later, in her senior years, she imagines a similar scenario with her grandchildren, where to take them for them to be safe. In the shadow of her own image as a young woman, due to her lack of agility and strength as an older woman, she assumes the role of protector for her family and aches for the safety of her young ones for the day the ocean ravages their lives again (Streit 2024).

Mrs. Natália, of Roma origin, has been for long in 2.º Torrão. She is the matriarch of the family, her sons live a bit farther presently, but also firmly part of this community. We found her at home on a winter day, her granddaughter took us there to talk to her grandmother about the sea. A firm believer, she is very afraid of the sea and the day it might invade the land where 2.º Torrão takes its place. “The sea doesn’t give warnings. The bible says: We will die by fire or by water! And the sea always returns to get what belongs to it. A person here is always fearful... Sometimes I am here, and I am fearful. (...) Once, about eight years ago, the water brought by the sea was so, so much, that you know where it was exiting? My sewage is connected to the sea. The sewage is connected to a watergate that is there. And there’s a pipe that carries it to the sea. That day we had put our feet on the floor, and it was only water, my house was flooded with water” (Natália, 2015).

Mário Ferreira was one of the first settlers in 2.º Torrão. He was born within the seamen culture of Costa da Caparica, a neighboring city facing the Atlantic Ocean. His father, a fisherman and his mother a street vendor, a *varina*, would cross the Tagus Estuary to sell the produces from the sea in Lisbon. 2.º Torrão had been settled in the 1940s by the *bairristas* (the inhabitants of the popular neighborhoods of Lisbon) and the fishermen continued visiting this area, sometimes settling for some periods of time during the year. For fishermen living in the area, to go fishing along the coastline of 2.º Torrão was a matter of choice between the Atlantic waters of Costa da Caparica or the Estuary, where the river meets the sea. For the fishermen in the 1950s, the possibility of going to fish at the Estuary could just present itself momentarily: “Let’s go and fish at the *Rio* [the river]” (Mário Ferreira, 2018). In the 1950s, Mário Ferreira and his family moved to 2.º Torrão, acquired a little house where a restaurant for fishermen and *bairristas* was open. When they moved there were already some houses that had been brought in from a neighboring community. One of those first houses belonged to Porfírio, one of the oldest inhabitants of 2.º Torrão. He moved there in the 1940s and found at this place the solace where he raised his family. When he was there living as a child, he remembers the first houses arriving from the neighboring community of Cova do Vapor. Pulled through the sand to escape the rising sea level, these houses were brought by oxen (Figure 5).

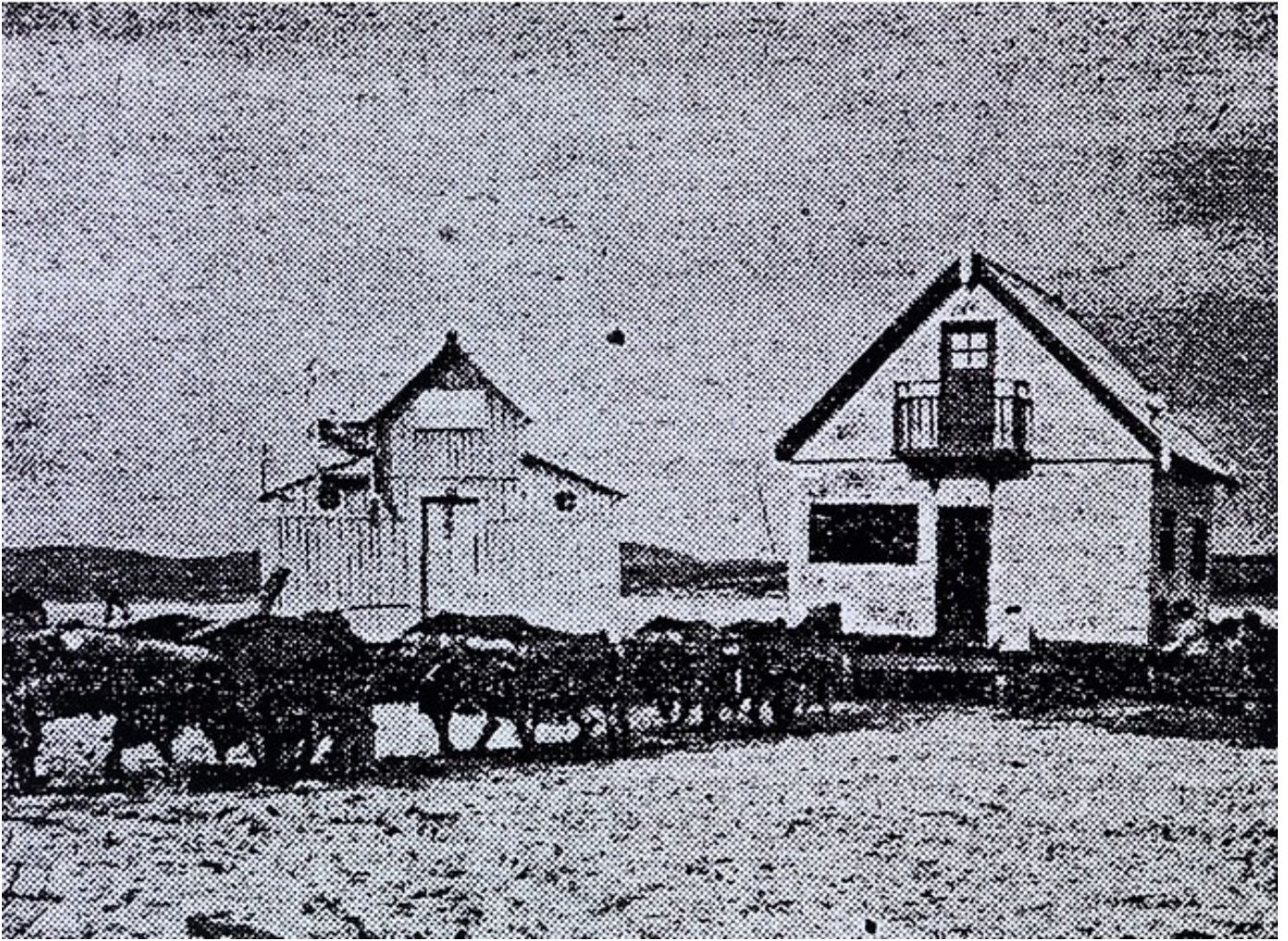


Figure 5 – House being moved from the community of Cova do Vapor to escape the rising sea level. From 1934 to the 1960s, the sea waves were menacing the community of Cova do Vapor, in Almada, facing the Atlantic Ocean, on the south coastline when the Tagus River meets the ocean. A young entrepreneur heard about the menacing storms and then devised a service to salvage the properties of the local community. Pulled by oxen that were rented from nearby farms, some of these houses were moved to the neighboring communities facing the Tagus Estuarian waters, as 2.º Torrão. This picture was found during the preliminary research of 'New Stakeholders – Sciences' in 2017, in community sessions in 2.º Torrão's neighboring community of Cova do Vapor. Author and date unknown.

Eduardo Ferreira is a local baker at Cova do Vapor, a local community in the vicinity of 2.º Torrão. Cova do Vapor is the first human settlement on the south coast, after the Tagus Estuary, and Eduardo had lived there his whole life and raised his family in this place. With the storms since 1934 that lasted until the 1960's, there were considerable changes in the geomorphology, the coastline was changing. The waves were invading the land where houses had been built, causing some heavy material losses. Eduardo's father, a farmer and skilled carpenter named Manuel Ferreira, had moved nearby to Costa da Caparica during this period.

He was tinkering around with this problem of the sea flooding, motivated by his own precariousness, needing a living wage to raise his family. Being there and witnessing the problem, he began to really understand what was at stake, according to his son, a child at the time. “He built a transport system for the houses and, as he didn't have many resources, he hired three yokes of oxen, who were from Charneca [Charneca da Caparica, a nearby town known for its agriculture], farmers who lived at that time, and then he paid them daily wages” (Eduardo Ferreira, 2019). It was in these conditions, and later with a tractor, that his business of moving houses as a form of mitigating risks from sea flooding bloomed. In this period, Eduardo ascertains that his father was involved in moving 386 houses in this region.

Mrs. Piedade was one of the ancients of this territory that I had the privilege of meeting. She was the embodiment of care for the territory, with an incredible living memory of past events. She moved as a child to Cova do Vapor, and she had to help to move her own house. The year was 1964, and she was a teenager at the time, 19 years old. She was home with her grandfather. The other family members weren't there, they had work and errands, and suddenly the sea was moving forward, furiously taking the sand. There were these wood cylinders that had to be placed under the house to be able to move it. The whole enterprise was physically demanding and time-consuming. She and her grandfather, afflicted by the danger of losing their homes and possessions, were putting all their efforts into moving these wooden blocks. Suddenly, a multitude came. “Everyone who was in Cova of Vapor at that time, who saw us moving the house, they came to help us. They didn't even want me to work anymore. There was a huge crowd” (Piedade 2021). The tears start running through her face as the memories come as an assault. Later, she would come to describe this subject matter with much ease (Camargo Duarte 2022). In the first half of the 20th century in this territory, besides these house transfers as mitigation measures to face the rising sea level, there were also other measures in place. The fishermen had organized an alert system. “The night that a fisherman would knock on our doors to alert us about the sea, no one would sleep” (Eduardo Ferreira, 2019).

4.2.4 The fishermen: Defining epistemic and political uncertainties

António is one of the fishermen of the region of Trafaria, where the communities of 2.º Torrão and Cova do Vapor are located. Close to seventy years old, he dedicates himself to finding and dealing scrap and joins fishing expeditions whenever possible. He had been one of the few locals that got hired by the megaindustrial of *Silopor*. As it happens in other places where megaindustries settle, the consequences for the living conditions of the locals residing in its vicinity end up being damaging, despite all the promises of industrials and political representatives (Malty 2017). António had a work accident while working at the big cereal containers. The fall he suffered had consequences for his physical condition. Still joining fishing crews, he is very daunting about the knowledge of the sea that fishermen hold. “The people who go out to the sea don't know anything”, he says (António, 2019). In agreement, the anthropologist Francisco Oneto says that a fisherman is someone who “goes into the sea”, not

necessarily someone who knows a lot about his or her profession or about that specific environment inhabited by the order of the fisheries, the so-called *halieutic space* (Oneto 2008, p. 66). A gradual imposition of capitalist policies in the fishing sector in Portugal in the last quarter of the 20th century had severe consequences (ibidem). Since the turn of the 21st century, the emergence of a new class of fishermen has been recognized. Having no calluses, many entered and left the fisheries. The activity became an index for precarious work, that any newcomer could easily join (idem.). More and more, a fisherman came to be a person who has no social recognition of the knowledge he might have, and that is disenfranchised from his political organization, as the isolation of fishing communities and their lack of political representation is a common problem for some time (Acheson 1981). The problem is not only epistemological and political, but deeply social, as fishermen, and especially those engaged in traditional fishing practices, are involved in a social and economic context of uncertainty that, paradoxically, creates a world of regularities and order (Oneto 2005).

Certain researchers in marine anthropology deal with a renewal of their discipline. As the field of Anthropology of fishery deals with the study of economic and social forms of production, these researchers favor another approach, more *cosmopolitical*, that takes the sea itself, how people move through it, what instruments are used and what naturalistic knowledge is evoked¹⁴³. Taking into consideration the migrant population from Africa that settles in the community of 2.º Torrão, there are many that have found in the informal or formal fisheries the possibility of earning an income, even if precarious. In parallel, in West Africa, where Cape Verde is located, a big shift in the halieutic space has happened since the middle of the 20th century (Cormier- Salem 1995). The social researcher Marie- Christine Cormier Salem has identified how scarcity has forced a rural exodus in the 1950s of the different peoples living by the Casamance river in Senegal (ibidem). The halieutic space, defined as the water-based space where humans find their uses and functions, became an alternative for autochthonous peoples with the agricultural crisis. The displacement of these farmers to the vicinity of the riverside was their solution to find the so-needed resources. Therefore, the figure of the *peasant fisherman* emerged. Fast-forward to the 1990s, at the time of her study, Cormier- Salem describes a complex space with a considerable diversity of uses, resources, and ecosystems and testifies tensions between different authorities (local, national) and in-between different communities, as *autochthonous* and *allochthonous*, and fishermen and peasant fishermen (ibidem).

As I settled in 2.º Torrão I met a young man. Cape Verdean, he grew up by the sea in his home country. His life seemed undisturbed by economic precarity, he only needed his fishing pole, he told me. Likewise, Mrs. Vitória, a Cape Verdean migrant who was living in Terras da Costa, a neighboring precarious settlement from 2.º Torrão, told a national reporter that the lack of running water in her household was not an affliction. “My life is the countryside”, she stated (Vindeirinho 2018). This regard, of finding satisfaction and comfort in the natural environment and its resources, is but a part of the world- view of these people. Considering that their lives are uniquely marked by this aspect, among their livelihoods, would amount to an

¹⁴³ As it is seen in the plea of the anthropologist Hélène Artaud (Artaud 2018).

abusive consideration, a romanticized regard. But it does compose a unique territoriality, distinctive from the urban landscape and the one- flat per family, one- room per person¹⁴⁴ and their distance from the rhythms and flows of the natural landscape. It's in this sense of finding a belonging that might open to the so- far hidden local- based knowledges and livelihoods that Larissa Maly developed the concept of 'aquatorium' ('*aquatório*', in the original Portuguese language), rooted in her research experience in Trafaria,

The riverside aquatorium is the territory that flows, navigates and dances, carrying belongings downstream, bringing memories from upstream, dazzling distant eyes, as if they were children of the same waterhole. The seaside aquarium brings together eyes that cannot be seen but reflect the same place¹⁴⁵.

(Maly 2017, p. 91)

The territory of Trafaria is at the meeting point of the Tagus River and the Atlantic Ocean. Historically, it has been associated with the mobility that this geography implies: as a harbor for incoming vessels wanting to arrive at the capital of the empire, as the place where the nomadic traditional fisheries from the North and South of the coastline have settled¹⁴⁶. The passage above, taken from the doctoral thesis of Larissa Maly, states that this territory implies a specific type of territoriality. Belonging to this place and its halieutic space evokes other livelihoods taken by the margins of other rivers in other geographies (Maly 2017, p. 264). The concept of 'aquatorium' can be used to understand the regard of many migrants that arrive to this place and find in its margins a belonging that is index of somewhere else. The work of Cormier- Salem, above-mentioned, enlightens the social dynamics and emerging figures that have characterized the management and power-dynamics in the Casamance River in Senegal and its surrounding halieutic space. It remains open how these emerging movements of territorialization on the margins of the Tagus converse with the figures of the West African peasant-fisherman and how these practices and world- views are or are not part of the territory of this fieldwork. They are valuable, however, to make apparent how similar dynamics might be taking place in this territory. The economic precarity of the sector of fisheries, a lacking political representation of the fishermen, and the lack of consideration and legitimacy of their local-based knowledge are unsettling and remains unknown how their situation and the fishing sector will unfold. It is in such a scenario that this research followed the situated perspective of the project 'New Stakeholders – Sciences', which developed by engaging both traditional fishermen and scientific researchers in the fields of oceanography and coastal geology.

¹⁴⁴ Which we can consider as part of the rehousing plans implemented by the Portuguese State in the past decades. For more on this topic, see chapter 3.

¹⁴⁵ My own translation. In the original Portuguese language: "O aquatário de beira de rio é o território que flui, navega e dança, levando pertences a jusante, trazendo memórias de montante, mareando olhos distantes, como se fossem filhos de um mesmo olho d'água. O aquatário de beira de mar reúne olhos que não se vêem, mas refletem o mesmo lugar" (Maly 2017, p. 91).

¹⁴⁶ This historical perspective is influenced by the local historian Carlos Barradas Leal's outlook published in the book *Outrafaria* (Leal 2014). More about this historical perspective on the beginning of Chapter 3.

4.2.5 New Stakeholders – Sciences: The scientists and the fishermen

It was the fall of 2019 and, in a few days, the coming of the scientific researchers to 2.º Torrão was arranged. Framed by the 'New Stakeholders- Sciences', these researchers of Oceanography arrived. After the preliminary research, two years before, we were able to gather the interest of a private sponsor interested in the political and scientific dimension of the problem under research, the 'Fondation de France', as we were able to gather the scientific community over the study of the sea invasion during storms in the neighborhood. These researchers were then working over the question raised five years before by a group of youngsters concerned about the sea invasion of their home place. These scientists were specialists in the study of Estuarine waves and geomorphological changes taking place during storms.

My colleague, taking the role of mediator just like me, Tatiana Arquizan, took part in this phase of the research. She was mediating the contact between the representatives of academic marine science and the people with local-based knowledge about the Tagus Estuary. During this process of data collection and analysis, the research wasn't open to the collaboration of locals (and we didn't know if we would have that chance). The only step able to engage in a more socially aware practice was the installation and recovery of equipment: pressure and sediment transport sensors – that at that moment was the motive for the arrival of these scientists all the way from La Rochelle, a city in the South of France, placed as well in the vicinity of a big Estuary.

The meeting point was at the dock. Tatiana and I arrived there first. The sun was bright and warm on that fall's Saturday early morning. The research team decided to go first to the other side of the river mouth, to the south banks by 2.º Torrão, to retrieve some other equipment first. That waiting period was, though, very gratifying. Facing an immense horizon and the ocean breeze, there was a calm anticipation of going and meeting this other place, there on the horizon, where a lighthouse in the middle of the river mouth meeting the open sea would greet us. On land, there was almost no one and plenty of space. In the middle of the pavement, a seagull was by itself waiting for something. It clearly knew its business there, as a boat was docked, with the engine working. At the border of the dock with the road, 200 steps away, there was a fence, and a young boy was there, following its range riding a bicycle, slowly going one direction... and then back.

Inside the fishing boat, there were four men, one of whom was our great captain for the day, Toni Graça. They had gone fishing and were quickly catching the fish caught in the nets, in clear distress outside their element, and sorting them out, tossing them in different styrofoam boxes automatically set there on the platform by the boat. While these fish were there, dying in front of me, the flounders seemed to be the ones fighting the most, wobbling their bodies with violence. Two of the men were assigned to aid on land, while the other two were taking care of the nets with quick, attentive movements. All the fish had been taken out to the platform at that moment. Inside the boat, there was a mechanical dispositive to align and role

the fishing nets that filled the air with a continuous hum.

Some minutes after arrived the scientists: Xavier Bertin and Baptiste Mengual were part of the research team that we had met, and they brought two colleagues in the car drive from France: Timon and Marc. We greeted each other. They were late and needed to go straight ahead to their function: assembling the heavy structures that would hold the sensors in the bottom of the Estuary. As soon as the scientists went back on track with their mission, a border was set: In the upper platform the French scientists were making their big puzzle, in-between buoys, ropes, currents, metal pieces, anchors and the so subtle and esteemed equipment to register information underwater. They would move quietly and with precision, keeping a polite and focused low tone, keeping the focus on their technical assemblage. A bit further, more than 20 steps away and on an inferior platform, were the fishermen, Toni and his mate, still fixing the nets inside the boat. A van had arrived to carry the fish to the fish market, which the two younger men were quick to carry. "It's ready! Let's go!" announced one of them. The door slammed and the van went away. The spoils from that activity weren't anonymous to our solitary seagull, that was after all just the first to arrive, other six friends of it had arrived. Fixing the fishing nets demanded an attentive eye and a quick hand, and the woman who arrived meanwhile was surprised by the absence of any fish. "So, they took everything?", she asked in awe. She was expecting something to prepare later for dinner, but the clever seagulls had already cleaned the spot.

Tatiana and I were wandering here and there, across the set border. Both the fishermen and the scientists were working, but it was almost time for the boat to leave. I helped captain Toni to get a wheelbarrow to carry the material into the boat. Xavier, the chief scientist, also had the money to pay Tony for his service. The research leader was late and worried, though. He feared for the safety of his material. In the past, when he paid the service of a company for that very same activity, every now and then some buoys would be stolen, and the so-very precious sensors would be lost underwater. Captain Toni granted him a gift, that they could write Toni's name on these floating balls. It could serve as protection. The agreement was made, the equipment loaded, and the boat left without further ado.

4.2.6 New Stakeholders – Sciences: My dearest Black box

A week had gone by since the last meeting, a storm had passed through, and captain Toni had told us some astonishing facts. The Ocean waves, during the storm, were so big that they were swallowing the Bugio lighthouse, placed front and center of the river mouth when meeting the Atlantic.

It was June 23rd, 2019, Saturday morning. A week after setting up the sensors underwater in the Tagus Estuary. This big storm had passed by, and the researchers were excited about the recovery of the material, tacitly understood as a precious black box from

where scientific research could be developed. Part of the research team had returned to La Rochelle. In Lisbon remained Baptiste, a post- doctoral student hired by the neighborhood project, and a colleague of his, Marc, who was doing his doctorate in oceanography. According to Baptiste, that day that was set to retrieve the material wasn't the best moment to do so. He had kept in contact with the climate forecast and the sea was still agitated, not as much as before, but still... Baptiste had been really insisting about scheduling the session to repossess the material for the next day, Sunday, but that wasn't possible. Sunday is a holly day and captain Toni wasn't available for that enterprise on that day. One could see that the researchers weren't accustomed to negotiating, but they didn't have another choice but to accept the terms. It was a matter of trusting the fisherman and his knowledge.

There was, then, some tension between the French researchers and the Portuguese fisherman. The final agreement didn't hide the commercial nature of the relationship. We would all leave on the boat that morning but, if for some reason, we couldn't retrieve the whole material, we would return the next day without any other additional payment.

The epistemic inequality was striking. It's the research team in this phase that establishes what is relevant knowledge and keeps the control over the capital and the administration, as is common in technoscientific enterprises. But once in the sea waters and around the field, the knowledge and direction of captain Toni is naturally setting the tone. During the week, he told us, he followed the buoys with the equipment while he was fishing. One of the sensors had become lost! He then followed it and found it trapped in the nets of his godfather. He was able to retrieve it and saved it in land close to Trafaria, on the south banks of the Estuary. Unfortunately, as we later learned, that sensor had really become lost despite the efforts otherwise. There was clearly much care involved in that process by captain Toni and his people of that halieutic space. They went beyond what was agreed with the scientists. Besides trying to recover the lost sensor, they also took care of the other buoys and had put GPS trackers on them, for them to be easily recovered.

Sometime later, we were set to recover the sensors from the sea bottom, quickly dressing up the fishing waders and life vests and entered the fishing boat to finally go to the Estuarian waters. There was friction in the communication established. Since the moment we entered the boat, the scientist Baptiste took the bow of the boat and was giving indications in French. He had to speak loud with all the wind and even so, it wasn't easy to understand. Not far from him was captain Toni, that couldn't understand French and was himself giving indications as well, with both often speaking at the same time. Meanwhile, the mediator Tatiana, bilingual, was translating what one and the other was saying. I was sitting at the back, at the stern of the ship. It was moving fast, as we were late. Like in a roller coaster, I had to hold tight, as the boat was running like a fast and furious animal and would face the waves heads-on, climbing and cutting over them, and then... BAM! We'd fall on the water surface again!

As we were guided by the technical prowess of our captain, the recovery of our prey, our precious sensors, was fast. Toni would drive the boat in such a way that we could laterally

get closer to the buoy. As soon as the boat slowed down in its speed, it would start to sway with the power of the waves. Baptiste, the researcher, would come as close as possible, capturing the buoy with a hook. Then collectively, by using a roller chain we would pull the sensor from the Estuarian floor. The sensors themselves were the most delicate thing. They were protected though, by some heavy structures, giving stability to it. To recover it was a strenuous job.

As soon as we arrived close to the first buoy, we had a rush of adrenaline! It wasn't easy for captain Toni to steer the boat in those conditions and to capture the buoy with the extended hook.... As soon as Baptiste captured the buoy, I engaged immediately in putting all my strength into pulling this structure and our precious sensor out of the sea, it was heavy! All my focus was on my muscles, and together we made it.

The immense Ocean, once crossed the border of the Estuary, was entirely another place. Some passing birds were ignoring us. We didn't have any dominion over that seascape. The waves were roaring a passage to an infinite set in the horizon where I kept my sight to keep balance. The sensor that was, days before, collecting information on the passing storm at that point, further into the Ocean, was retrieved a bit further than expected. The other precious sensors we were looking for were also retrieved safely that morning. In the end, the fishermen had surpassed the expectations set by the scientists in the way that the valued equipment, the sensors, were taken care and retrieved.

4.3 Between the fishermen and the scientists: defining Epistemic roles

The citizen science project 'New Stakeholders – Sciences' has started from the grassroots definition of a local-based problem. The floods during storms in the neighborhood placed at the margins of the Tagus' Estuary during 2014 have motivated the young stakeholders of 2.º Torrão to choose that problem as the one that scientific research should work upon¹⁴⁷. The preliminary research then ensued that had situated the problem of sea flooding in the community's rich lived experience of that place. Would the sea 'eat' the land? That first demand was adapted to be positioned as a research question: How could the coastline of the neighborhood evolve in a short and long term? Five years later the project had started, a committed research team in oceanography and coastal geology had been hired.

As the scientists arrive to what is their fieldwork, by the shores of the Estuary, to meet the fishermen, certain roles and dynamics are identified. The previous sections included ethnographic descriptions of the interaction established between the actors during these moments. The scientists are at the helm of the research taking place. Due to the specific political character of this project, they have done certain adaptations to their protocols. The research over the dynamics of the Estuary during storms involved certain objects, the sensors,

¹⁴⁷ The Storm named Hercules, in early 2014, impacted the whole coastline of Portugal and specifically 2.º Torrão, motivating the co- creation of this citizen science project, as mentioned before.

that once placed underwater, at the bottom of the Estuary, can retrieve information on pressure and sediment transport during storms. This valuable information would allow them to integrate later this data into a model and, eventually, to be able to predict (within few days) situations of greater risk of sea flooding in 2.º Torráo.

The fisherman in this story was the guide to the Estuarian waters. He would transport the scientists with his boat to different locations where the sensors would be placed and, afterwards, would return with the scientists and the researcher-mediators to retrieve the equipment. As integrated in the halieutic space, he relates to others in this activity: other fishermen, friends and family members, while all these people are engaged in this experience. As it was detailed, the negotiation between the scientists and the fisherman showed certain frictions. As the fisherman didn't accept the proposed timing of departure for the retrieval of the sensors from the bottom of the Estuary, the scientists were at first suspicious of the seriousness of the agreement. The predictive power of the weather was at odds with the availability of the fisherman. Still, he was assertive about the success of this mission, engaging the parts in a negotiation that gave relevance to the different standpoints of the roles taken by the actors involved.

Frictions among different actors that belong to different social groups show a disagreement in their world views, that can be the matter of research by social sciences. Relevant knowledge can emerge through opposition, as through analyses of agency or, in anthropological research, be translated in other meanings to the surrounding environment. Here are considered certain epistemic roles that researchers in techno-science, traditional fishermen and engaged mediator-researchers might take in such events when these actors meet, considering these under the angle of Isabelle Stengers' cosmopolitics.

As it was previously approached¹⁴⁸, Stengers established a concept of cosmopolitics that could render possible a productive meeting between the scientists and other citizens. Usually taken in respect for their autonomy, the technoscience academics are challenged to think in the presence of the victims of their decisions, as that meeting between the necessities of research and the consequences for its victims, would render the "cosmic" character to such event (Stengers 2005, p. 997). This proposal is anchored in a positioning, in the need to take a certain standpoint, that Stengers identifies with an etho- ecological approach (ibidem). The concept of *ethos*, as the concept of *oikos*, are anchored in ancient Greek. *Ethos* is translated to mean the proper way of behaving of a certain being, and *oikos* its habitat. An etho- ecological approach stresses the interdependence of both concepts, the situated character needed for the cosmopolitical event. As Stengers puts it, "an ethos is not contingent on its environment, its *oikos*, it will always belong to the being that proves capable of it" (ibidem). As we try to reflect upon epistemic roles, it's in this sense of a certain needed re- calibration that the researcher will need to ensure to be able to reach an agreement with others as a form of utopia. As Stengers explains, the question is not a matter of "either that or I stop being a scientist", but rather one of the milieu (*oikos*) that favored such a position (idem, p. 998).

¹⁴⁸ See the first introductory chapter.

The epistemic role of the researcher in a precarious settlement demands that his presence and knowledge to be situated. Stengers' etho- ecological approach reflects on what being situated might mean. To the scientists that were represented in the previous sections, it was seen how their expertise about the climate and weather prediction was at odds with the fisherman. The weather forecast had shown the best moment to retrieve the sensors from the bottom of the Estuary. The etho- ecological positioning that Stenger proposes considers the access of experts to their technical knowledge but asks for their active positioning in the milieu where they are inserted. The fisherman didn't abide by the proposed action by the scientists. The halieutic space is where he lives most of his day and the retrieval of this equipment was but one activity that he had. The fisherman proposed an alternative date, that wasn't calculated with the same instruments as the scientists. It came from his availability and intuition, which caused friction.

From the perspective of the traditional fishermen, the challenge can also be understood as finding an etho- ecological standpoint, as its subjugated knowledge can be a place of social production of ignorance¹⁴⁹. Taking considerations from the field of Marine Anthropology, the researcher Hélène Artaud presents how traditional fisheries deal often with knowledges that are implicated socially, but they will also reveal other aspects, as traditional fishermen reveal a fusion of mythical and ecological dimensions, known as *eco-mythology*, as well as sensory and ecological dimensions, the *eco- aesthesia* (Artaud 2017, p. 21). In this way, certain intuitions and hunches can be situated in the world- view of the fisherman, and can gain density if explored, and avoid the subjugation of his or her knowledge.

The epistemic role of the researcher-mediator takes on the challenge of being engaged in the messy matters of reaching agreements of different world- views. Ascertaining a standpoint can mean, in this aspect, to be aware of a certain concrete social position. Considering the situated knowledge, dominant groups often have a situation of scientific and epistemic disadvantage but fail to question their social advantage and its effects on their beliefs (Harding 1993, p. 54). Such practice of having a critical standpoint orders a repositioning against a commonly stated epistemic neutrality, as the feminist philosopher Djamila Ribeiro has equated (Ribeiro 2017). As it was described in the previous sections, the researcher-mediators were in- between the scientists and the fishermen. The human and social sciences' knowledge was activated to the perception of differences, to establish communication between the different actors and their world- views. The demand for the researcher- mediator is that he or she should be aware of their place, not in the sense of being an arbitrator, but of questioning certain anesthetics. Moreover, the epistemic role of the researcher- mediator is contemplated by other practices. The 'honest broker', able to synthesize policy alternatives for decision-making processes, presenting policy synthesis and mediating their significance, has been proposed as a position to be taken by researchers of the human sciences that study policy- making (Pielke 2007, pp. 2-3). In parallel, the 'honest broker' has been proposed as relatable to the role that a researcher in philosophy takes when engaged in 'field philosophy' within that world of

¹⁴⁹ The social production of ignorance can be understood as parallel to the social production of knowledge, according to certain social epistemologies also framed by feminist philosophies (Godrie Dos Santos 2020).

government and its different stakeholders (Brister Frodeman 2020, pp. 1-13, 243-257). In this sense, and closer to the scientific culture, also the role of the 'boundary spanner', that through its displacement through different territories can relate the knowledge and culture of science into decision- making processes, has been proposed for engaged researchers (Goodrich et al. 2020).

Engaged researcher- mediators that take roles, as the 'honest broker' and the 'boundary spanner' are relatable to a practice of "confined research" (Callon et al. 2009, p. 10). Michel Callon presents a view of technical democracy that is designed to absorb debates and controversies aroused by science and technology (op. cit., p. 9). For the authors, the key is the definition of an "open-air science", that by comparison with the "confined research" and its actors, offers a more proper definition of a local and a universal perspective (op. cit., pp. 202-204). The horizon set by Callon and colleagues in their proposal is to reach, by the practical organization of "hybrid forums", a technical solution for the accomplishment of Rousseau's "general will" (idem, pp. 153-207). The considerable difference with a cosmopolitical practice is in the roles given to the common logics of political representation, as such places are usually infiltrated by actors that claim a universal perspective, as the role of the State or the Industry in these processes arrive with certain knowledge claims that belongs to no one, because the state or the market "knows best" (Stengers 2005, p. 1000). Therefore, a good start to think the epistemic role of a researcher- mediator that arises from human and social sciences is to be aware of his or her positioning and of certain tendencies related to disciplinary power, that might give place to statements that come from above¹⁵⁰. Furthermore, the contrast between 'confined research' and 'open air science' presented by Callon and colleagues, gives an interesting contrast to the definition of the epistemic role of the researcher -mediator. The 'honest broker' and the 'boundary spanner' are associated with practices centered with the inclusion of others in the milieu of administrative or research institutions. The 'open air science' is a definition closer to the practices of mediation that were here described and to the formulation of Stengers' cosmopolitics.

In conclusion, placing the science of oceanography and its scientists by the margins of the waters of the Estuary, as their subject matter, with the participation of the fisherman was by itself an extraordinary opportunity to situate science. Following this collaboration allowed us to consider the epistemic roles of the fishermen, the scientists and the researcher- mediators. Critically, the subjugated knowledge of the fishermen, attached to social and political uncertainties, needs researcher- mediators that can relate to these world- views and contribute, in this way, to a technoscience from bellow.

¹⁵⁰ Foucault's introduction of disciplinary power (given in the Introduction) sheds light on how subjugated knowledges can be disconsidered by academics. An interesting regard coming from the sociology of science by Granjou and Peerbaye uses the classification of 'taxonomic collectives' to refer to the scientific social collective that is invested socially in the classification of objects (Granjou Peerbaye 2011, pp. 5-7).

4.4 The paradox of the ideal deliberator and the situated expert

The esteemed Geology Professor Rui Taborda is one of the scientists that was engaged in the 'New Stakeholders – Sciences'. He was one of the scientists that replied to the call for support in earlier phases of the project. As he realized that the flooding of the neighborhood during storms was a problem that members of this community wanted to face, he was excited about such a perspective of developing scientific research with communitarian involvement. At that time, he had recently published a report, as part of a workgroup of experts that had compiled information and reflected upon the Portuguese coastal management (Duarte Santos 2014). This report, by the authorship of Taborda and other experts named by the Portuguese State to fulfill this duty, was one of the valuable sources of information that the citizen science from 2.º Torrão used. Later, as the project developed, it was Taborda and the group that he leads that provided expertise and science communication during the preliminary phase of research¹⁵¹. Taborda was pivotal through his scientific network, gathering interest and reaching out to others, as the research question that formalized the initial concern of the local stakeholders needed the connection to other scientists. Finally, he was part of the formal collective of scientists that led the scientific research over coast flooding in 2.º Torrão.

The 'field philosophy' interview with Rui Taborda was interesting in how it articulated positions and problems of a situated science and faced implied scenarios of a politically engaged science. A situated science needs scientists that are involved in social participation, which Taborda fully supports. According to him, social participation in science is important on two levels. The first is through the direct participation of others in scientific research. He supports the view of citizen science as the needed democratization of science¹⁵². Secondly, he considers the requests from civil society as needed to fulfill socially relevant scientific research. This "external pressure", as he expressed it, is a fundamental part of the buildup of social awareness among scientists (Rui Taborda, 2020). He sees, in this regard, that the pressure for answers exerted by the stakeholders of 2.º Torrão had a positive effect on steering the knowledge production.

As Taborda expresses his views about the future of science and society, he believes that social participation should have a role in scientific research and exemplifies with the certification of knowledge produced at the University. According to him, involving citizens in evaluation and certification procedures can produce a more socially responsible science.

¹⁵¹ In 2017, two researchers from Rui Taborda's research group did an incursion into the neighborhood to register data on altimetry. This way, they were able to draw a profile of the territory, that complemented the data gathered with inhabitants about past events of coastal flooding. Moreover, Rui Taborda and other scientists from his group were engaged in science communication activities prior to the beginning of the formal scientific research in 2018: promoting walks around the coastline to discuss its morphological and geological changes, participating in private meetings with local stakeholders to highlight the evolution of the coastline and developing and implementing activities for children during a summer camp.

¹⁵² Professor Taborda was considering here the use of citizen science platforms that can enroll participants as citizen sensors, as was explained above in this chapter in the section 'The Participative turn in scientific research'.

Moreover, societal involvement in public matters that involve science is seen as necessary, as he considers the fields of risk management and coastal planning. As a geologist, Taborda has a territorial scope that includes the whole Portuguese coastline and well into the Atlantic's submarine floor. His activity is also attached to the state, as his technical advice fits an order of formal decision-making procedures. It's in this sense that he identified a societal conflict: on one of many of Portugal's beaches, there was one where a risk of landslide was identified. The state had signaled the peril, but nonetheless, beachgoers continued to use the place for recreation. Eventually, one day there was a landslide, and fatalities occurred in that incident (Figure 6). In this case, who takes responsibility for this drastic turn of events?



Figure 6 – Landslide in Maria Luísa Beach, Portugal. On August 21st, 2009, at the Maria Luísa beach in Albufeira, southern Portugal, five people died after a landslide. The photograph on the left side of the picture represents the rescue work that afternoon of 2009. On the right side is a photograph taken six years later. The warning signs for danger were placed in Maria Luísa beach before this accident, warning about the overhanging rock's risk of collapse at the beach. Following this event, there was a public discussion on the Portuguese state's responsibility over these fatalities. In court, the discussion focused mainly on the distance between where the victims were located and the risk area and on the risk signals' perception. On May 27th, 2020, the Administrative and Tax Court of Loulé considered the state guilty of neglectful behavior and sentenced it to pay compensations to the victims' families that had lost their loved ones that day (Photos: © Lusa Agency of Communication).

The Portuguese state ended up being considered as neglectful of the risk of a landslide at Maria Luísa beach. The state had followed the legal standards for signaling the risk,

but questions were raised in court and the state ended up being considered as neglectful. For Taborda, this is a paradigmatic case of coastal management, considering that if there was a more socially inclusive decision- making process, we might have had other scenarios for managing that risk. Facing the wicked problems of the present, especially concerned about climate change, Taborda calls for a broad societal initiative that could bring together the different perspectives from society and the needed scientific expertise. In his words,

“What we need here is a *more independent method* and we have to walk towards a more equalitarian society”

(Rui Taborda, 2020)

Professor Taborda’s appeal for a science that is more socially implied and politically structured is keen to a proposal of a well- ordered- science, formulated by the philosopher of science Philip Kitcher (Kitcher 2001; Kitcher 2011). First, Kitcher advocates for a philosophy of science that might “facilitate the conversation” for a “theory of the place of science in a democratic society” (Kitcher 2011, pp. 18, 38, 42). Kitcher is triggered by Foucault’s notion of disciplinary power and the political role that ‘subjected knowledges’ might take (2011, pp. 66-67) and is inspired by feminist philosophers of science that have questioned the role of science and its need to be more implicated in social affairs (Kitcher 2001, p. 211; Kitcher 2011, p. 100). It’s in this context that Kitcher identifies four major problems: The ignorance of science and its mirror image, the ignorance of others; The failure of sympathy to the ones in the social margins; and the disciplinary myopia of the world (Kitcher 2011, p. 85). The “theory of the place of science in a democratic society” takes, then, the form of a science that is ordered:

“Science is well ordered when its specification of the problems to be pursued would be endorsed by an ideal conversation, embodying all human points of view, under conditions of mutual engagement”

(Kitcher 2011, p. 69)

The model of a well- ordered- science is related to Taborda’s appeal for a more independent method in science- society relations. The proposed “mutual engagements” could bring together different actors and interests to take decisions on societal issues and, according to Kitcher, would involve a first explanatory period for all participants and a deliberation phase (op. cit., p. 75). Such mutual engagement represents for the author a middle ground between a “tyranny of ignorance” by representative democracy and an epistocracy by the rule of the “judgement of the wise” (op. cit., p. 74). The certification of scientific research that Taborda advocates for wouldn’t stand in this model, according to Kitcher, as it would raise a “tyranny of ignorance” (op. cit., p. 90). To Kitcher, such certification equates to a “mob rule”, having as a reference the political debates that take place in the United States over the relativism of biological evolution (idem.).

The scope of Kitcher's proposal is broad, as he envisions the territorial domain of a nation state and includes, as quoted, "all human points of view", including those of people not yet born (op. cit., pp. 69, 76). In such a large ideal scope, the place given to the social margins in this model is troubling. First, the segregation of the ones at the margins is considered one of the starting problems that motivates the political ordering of science, as Kitcher acknowledges the corruption of the elites, the detrimental role of mass media and the lack of consideration of the biomedical industry towards the poor of the world (op. cit., pp. 83, 85, 130-131). This motivates Kitcher's disposition for sympathy for the margins and the value of diversity, considering the direct representation of the marginals in his embodiment of "all points of view" (op. cit., pp. 69, 131). On a second point, Kitcher's consideration for the margins critically doesn't consider local-based knowledges. According to him, the peasant traditional knowledges are equivalent to a "sentimental nostalgia", while "new techniques allow the children to be fed" (op. cit., pp. 156-157). Kitcher's disregard to traditional practices extends to his considerations over expertises developed in tandem with local-based knowledges, as he denies the possibility of the poor developing scientific research (op. cit., p. 76). A political positioning becomes clear in Kitcher's well-ordered-science when addressing mutual engagements enacted by a first phase of explanation, that would involve "tutoring" of participants in the various fields of inquiry (op. cit., p. 75). His disregard for local-based knowledges is here connected to his alignment with a liberal conception of citizenship, as Kitcher describes a passive role of the citizens as "happy consumers" of scientific information could contribute to their tutoring process (op. cit., p. 123). Despite this blatant ideological regard being counter to the nature of participative democracy, Kitcher's model clearly positions itself under the influence of John Dewey's pragmatism (op. cit., pp. 42, 46, 48-49). This influence renews our care for Kitcher's proposal, as Dewey's reflections on the future of democracy had put the definition of an active "public" in a central role in common affairs and a lesser importance given to voting and representative democracy (Dewey 1927, pp. 59-85, 115-143). Furthermore, as the philosopher Joëlle Zask puts it, Dewey's influence for a participative democracy has a widespread influence on both sides of the Atlantic (Zask 2008).

Considering how Kitcher's model of a well-ordered-science relates to situated science, we find some common grounds. By considering the values that steer science, Kitcher is critical of the notion of a genuine science that develops itself value-free (Kitcher 2011, pp. 21-22). Values steer the direction of valuable research and cannot only be considered as context of justification, as Kitcher agrees (op. cit., p. 22). Pondering over more practical aspects, Kitcher is aligned with Dewey's given importance to associated living and proposes that basic research gets closer to real-life problems (op. cit., pp. 46, 80). But, as mentioned, his territorial scope is large, which carries certain problems. As he considered the agro-industry, he despised traditional practices, as we have seen, but also an empathic attitude to contentious myths, as the 'golden rice', a biotechnological product that had been promised in the 1990s to solve the hunger and malnutrition in the world (op. cit., pp. 156-157). As a situated perspective verifies, critical stances dispute that value given to golden rice (Shiva 2001). In this example, activists of food sovereignty seem to be considered by Kitcher to be just as lacking in proper tutoring, following this perspective of the public as ignorant. This regard is very troubling, as opening science to politics will forcefully need to acknowledge perspectives that are in disagreement.

In contrast, Isabelle Stengers cosmopolitical proposal for the meeting of the technoscientific and local worlds involves a critical local etho-ecological positioning of the researcher in the presence of the victims of their initiatives¹⁵³. A diplomatic regard is taken in this political event by the intervention of the conceptual character of the idiot, seen as a collective moment of pause that is inviting disparate views to emerge. Also, the role of diplomats of the social margins is considered. The horizon of finding consensus is common to Stengers and Kitcher in their respective political proposals, but Kitcher's diplomacy takes very different forms.

Kitcher's proposal for a well-ordered-science has a diplomatic stance by the materiality of its maps and a central figure disposed at that meeting of different worlds. The maps that Kitcher proposes are of two different orders: the "significance maps" and the "index of human needs" (Kitcher 2001, p. 78). This proposal is designed to tackle the problem of disciplinary myopia, as it describes, according to Kitcher, a lack of synthetic vision that is common to many scientists (Kitcher 2011, p. 83). In his first proposal of a well-ordered-science in the book *Science, Truth, and Democracy*, the significance maps were discussed in its sixth chapter (Kitcher 2001, pp. 63-84). According to Kitcher, a significance map is defined by "drawing a directed graph with arrows linking expressions, some of which formulate questions that workers in the field address, others that encapsulate claims they make, yet others that refer to pieces of equipment, techniques, or parts of the natural world" (op. cit., p. 78). A field-centered perspective is defined by the consideration of scientific fields or disciplines, while an item-based approach is based on objects or concepts (ibidem). These maps equate to a goal of cartography, to build an "ideal atlas" (op. cit., p. 60). The "index of human needs" is equated to consider the ignorance of others, providing a total representation of the needs of citizens involved in the well-ordered-science deliberations (Kitcher 2011, pp. 84-85). In parallel, a central figure is equated at the center of the decision-making process, the "ideal deliberator" (op. cit., pp. 75, 84). The ideal deliberators, by the design of this ordered science, have "tutored preferences" into the different perspectives of the controversies and, simultaneously, should recognize each other's needs (ibidem). Therefore, Kitcher's well-ordered-science rests on the intervention of "ideal deliberators" that shall be tutored in the desires, needs, and values of what's at stake, using ideal maps to the aid of reaching a consensus. Hence, Kitcher's model to a well-ordered-science is a model for an "ideal conversation", the success of which rests critically on the shoulders of "ideal deliberators".

The late Professor Richard Lewontin delivered a critic to the model of a well-ordered-science directed at the role given to the "ideal deliberators". According to Lewontin, the foundations of this proposed structure rest on the capacity of the ideal deliberators to leave aside their narrow self-interest, something that was considered as unrealistic (Lewontin 2002). As Kitcher designed his order for science engaged in public affairs, he has shown how inspired he was in designing an ideal structure (Kitcher 2001, pp. 43-54). The "ideal deliberators" are inspired by the role of the guardians described in Plato's Classical *The Republic*, and their demanded "tutored preferences" mirror Kitcher's reading of a "special kind of education" taken

¹⁵³ More on Stengers' cosmopolitics in the Introductory chapter and in the section above, named 'Between the fishermen and the scientists: defining epistemic roles'.

in Athens in that period (Kitcher 2011, p. 16).

Considering Plato's Republic and its influence in political philosophy, Jacques Rancière offers a much-needed critical stance. As it was previously discussed¹⁵⁴, according to Rancière, the order of political idealities must be linked to some construction of city 'parts' for political philosophy to exist (Rancière 1995 1999, p. 6). Plato's republic counts as an inaugural moment for political philosophy, following Rancière in the fourth chapter of *La Mésentente – Politique et philosophie* (Rancière 1995 1999, pp. 93-131). The regime of the ideal city of the philosopher is transposed to the reality of the city, dividing it into parts. This movement will equate, in Rancière's view, to an actual imitation of politics, based upon disagreement. The way of life envisioned in Plato's Republic is associated by Rancière with a particular regime, as an organism regulated by its own law (op. cit., p. 98). The philosopher, by superimposing the ideal order on the city, will impose a distribution of parts and functions (op. cit., p. 99). The ideal order will confuse politics with its opposite logic, the police¹⁵⁵.

Therefore, Kitcher's philosophical proposal of a political order that accommodates science can be considered as resting on the logic of the police, as described by Rancière. As the author designs ideal maps, able to include all possible perspectives, he simultaneously ascertains an imposed discipline in what is relevant knowledge and one-sided perspectives over the Global South and the oppression of the agro-industry. The role of the ideal deliberator emerges, finally, as the most controversial element of his proposal. As Kitcher's "ideal deliberators" are tutored on their preferences, they concurrently must enlighten other's "self-directed wishes" (op. cit., pp. 83-84). This gives rise to a paradox. The ideal deliberators, being conceived not as abstract entities but as concrete people, in the image of Plato's guardians, ought to leave aside their self-interest and be tutored on certain techno-scientific controversial events by the same actors they are obliged to enlighten. As an apex of Kitcher's 'ideal conversation', the paradox of the ideal deliberators embodies the more-than-human philosophical order imposed in politics, as they should intake all human perspectives and simultaneously, inform all parts. Kitcher's ambition is to bring this order to practice, following Dewey's quote that the "highest flight of metaphysics is always terminated with a social and practical turn" (Dewey, 1930, p. 18), yet his construction is deeply troubled.

Returning to the 'field philosophy' interview with Professor Rui Taborda, he had called for a more "independent method" for dealing with societal wicked problems involving science. The researcher argues that those political decisions, to be rational, should be put at a distance from particular interests. The most difficult task for him is collective decision-making, as it's needed "for us to understand the whole society, not just those for whom we are solving a particular problem" (Rui Taborda, 2000). Taborda, when thinking of the resettlement of the community of 2.º Torrão announced by the city and knowing how that had unsettled the community, relates to that problem more than his situated lived experience in the neighborhood.

¹⁵⁴ In the Introduction to this thesis.

¹⁵⁵ More on the notions of politics and police in Rancière's philosophy in the third chapter, in the section 'Communities driven by consensus vs. Communities driven by disagreement'.

He relates it to other cases, such as the disaster at the Maria Luísa beach reported before, but also to the cases of other communities that were also forced to be displaced. Finally, to report to his considerations, he shows himself to be worried about the positioning of a “silent majority”, in contrast with a minority that is “very active and interested” (Rui Taborda, 2020). Who are these others? Taborda thinks about these others who remain silent, living in some bedroom suburb,

“[people] that have to work, that have to catch public transports and see these other people, the ones that are living by the beach and are saying that they would only leave that place if the city gave them a house”

(Rui Taborda, 2020)

Taborda’s considerations over a “silent majority” reflect an idea of public opinion, the idea of the opinion of a majority that remains silent but must be simulated through a general opinion, expressed in a percentage. As we have discussed before, this idea of a homogeneous visible reality is constructed in mass media to the detriment of the social margins¹⁵⁶. The simulation of the opinion of the fictive inhabitants of Lisbon that Taborda envisions should, then, meet this moral judgment of considering that a settlement on the margins of a beach is a privilege and that even the demand for resettlement might be considered immoral.

In parallel, Philip Kitcher, when considering topics which show many different perspectives in disagreement, also equates to replace the ideal deliberator by a large group of people,

“The debating scientists differ on what causal factors are important, regard different samples as adequate and inadequate, are variously averse to risks of diverse kinds, and hence disagree about which factual claims are well enough supported. We would do better to replace our ideal observer with a larger group, one whose members shared the observer’s lack of investment in “winning the fight” but who represented different human perspectives”

(Kitcher 2011, pp. 115-116)

This quote is taken from Kitcher’s seventh chapter of *Science in a Democratic Society* (Kitcher 2011, pp. 110-125). In it, Kitcher discusses the complications that might surface in the mobilization of a well-ordered science in response to real-life public affairs (op. cit., p. 111). Envisioning the debate over an urgent matter, Kitcher retreats the “ideal observer”, being replaced by a “larger group” able to accommodate a needed multiplicity of perspectives. This consideration of the removal of a deliberator for a contentious issue and its substitution by a group of people with disparate viewpoints makes the matter more political, in a Rancierian sense. Still, it also means an enlargement of the political regard. Replacing the ideal deliberator

¹⁵⁶ See chapter three, sections ‘2.º Torrão in mass media’, ‘Places of fear’ and ‘Communities driven by consensus vs. Communities driven by disagreement’.

with a large group of people supposes that these aren't the same individuals who were involved in the discussion of the contentious topic. As Taborda expressed, he was worried about a "silent majority" that wasn't there in the political dispute in the first place, not defending particular interests, but reflecting an idea of public opinion. These are the people who have the definitive deliberation in Kitcher's urgent matters, taking on the guardians' role of the ideal deliberator.

These considerations lead us to propose the paradox of the situated scientist. As scientists are positioned in local political matters, they will always deal with the universal categories and concepts connected to their scientific practice. What Stengers' cosmopolitics proposes is for them to be positioned, to consider their *oikos*, their surrounding environment, and to adapt their way of being to what is there present (Stengers 2005, p. 997). The consideration of the "invisibles", those others that aren't engaged and have no personal interest in that discussion, they function as a fictive people that places the discussion and its players somewhere else. As the ideal deliberator was the paradox inherent to the contact between idealism and reality, now these others are called to include a total ideal human perspective in the discussion. The paradox of the situated scientist is, then, set by the contrast between his presence in a place, its people, and its politics and his simultaneous presence in the same place with other fictive people that will have a definitive word on the local political decision-making.

In conclusion, dire, wicked problems need new political solutions. Kitcher's bold proposal of a well-ordered science presents the engagement of science in political matters through a philosopher's move that proved to be stimulating (Arnon 2013, Cartwright 2006). The "ideal conversation", presented by Kitcher, is imposing an order in the messy politics that involve science. This proposal, as much needed as it is, evokes the central figure of an ideal deliberator and its ideal maps, a symbol of the different human perspectives on the problem under deliberation. Its positioning as a real person is a paradox, as not only it leaves out his or her self-interests, but it also should intake all the perspectives at play and enlighten everyone with that ideal perspective. As we consider the positioning of the contemporary situated researcher engaged in a local political issue, we find another paradox. The scientist, simultaneously enmeshed in the political matters of a nation, takes the scale of his or her presence to call more than the embodied experience and technical and conceptual expertise, but the opinion of others that remain silent and invisible to the discussion at hand. In the mirror image of Kitcher's more troubled scenarios, a large group of people is called to replace the ideal deliberator, able to incorporate all the disinterested viewpoints. The situated scientist is then thinking himself situated in that concrete surrounding environment and, simultaneously, surrounded by a group of fictitious people that will have the final word on that deliberation at hand.

CHAPTER 5

SITUATED SCIENCE VS.

THE MODERN SOVEREIGN'S COMMANDMENT

An experimental approach to 'field philosophy' steers this thesis. We question the character of situated science from the perspective of a precarious settlement placed in the urban area of Lisbon. As it was discussed in the second chapter, ethnography and interviews are part of this empirical approach, which allowed the development of a needed intersubjectivity to critically approach the neighborhood of 2.º Torrão and its world-views. In the third chapter, we were introduced to this place on the social margins and its situated scientists. In the following chapter, we were following a marine sciences citizen science project co-created in the neighborhood, as this settlement is positioned by the shore of a large Estuary. As we question the relations between the situated scientists and these others that take part in science, we have dealt with considerations from feminist epistemology. Moreover, tackling social participation in this context, we have raised reflections crossing political philosophy and philosophy of science.

5.1 Situated knowledge at the precarious settlement: Counter-expertise and local-based knowledges

As we consider the production of knowledge situated in 2.º Torrão we find great diversity. As this research progressed, twenty-one researchers were engaged in 'field philosophy' interviews. We were interested in the process of their situated scientific research, the relations that were established, and how social participation was framed accordingly. In terms of the knowledge produced in itself, most of these approaches didn't come to be appropriated by locals, to our knowledge. It remains to be considered further the situated sciences from 2.º Torrão and how they were mobilized to the advantage of the local community and their representatives.

We have identified in previous chapters some situated sciences in 2.º Torrão. As it was previously discussed, the architectural interventions had a specific local appeal due to their practical nature, delivering most of them valuable changes in public or private space. Among these, there was one research in design that focused on imagining a possible future with local

stakeholders facing the uncertainty of climate change¹⁵⁷. In similar terms, one research in psychology of intercultural relations also delivered precious knowledge over the media representation of 2.º Torrão related to climate change and its effects on the community¹⁵⁸. As the project 'New Stakeholders – Sciences' was developed in a regime of co-creation of knowledge, it's considered that it ended up serving as a reference for the mobilization of stakeholders and some of the members of 2.º Torrão's community¹⁵⁹, affecting in this way the direction of the before-mentioned research in design and in social psychology. As the research on coastal flooding by the 'New Stakeholders – Sciences' continued to be followed, we shall consider with further detail its results and question its social appropriation.

The scientific research into coastal flooding during storms ordered by inhabitants of 2.º Torrão developed incrementally, engaging a broad international team of scientists. The research in oceanography was built on a preliminary inquiry done with the community that already involved some interactions with some other scientists. This preliminary research on coastal flooding collected some data on storm events and their repercussions in the living memory of inhabitants. As the scientists arrived in the neighborhood, they used this information in tandem with maps and satellite imagery to get a more precise account of the coastline transformations throughout the years (Lira et al. 2016). This study conducted by the geologist Cristina Lira and colleagues already inferred about the geomorphology dynamics of the Tagus' Estuary, where 2.º Torrão is located. It is a very dynamic coastline, as the shore, as well as sandbanks located in the Estuary might change their location more rapidly than most Estuaries (ibidem). The research in oceanography that followed consolidated an international team and built on previous results. The research was developed by creating a model of the hydrodynamics and sediment transport of the Estuary, in the hope of achieving some predictive power, or, in other words, to be able to predict based on environmental data a flooding risk up to a few days in advance (Canto do Curió 2022b).

The results of the 'New Stakeholders – Sciences' were very promising. As the computer modeling the wave dynamics was fed with precious data retrieved from sensors¹⁶⁰, it proved to provide a significant simulation of the real-life dynamics during storms. Their results confirmed that the brutal morphological transformations in the coastline aren't related to climate change but are rather intrinsic to the dynamics of these coastal environments (Fortunato et al. 2021; Mengual et al. 2022). Furthermore, a particular role was discovered for a particular type of wave for flooding events during storms in 2.º Torrão. The "licking waves" had been mentioned by inhabitants of the community as waves that invaded the land with great energy and velocity, sweeping a great area (Mimi, 2015). The results of Bertin and his team identified these waves, named in oceanography as infragravity waves, as having a possible role during floods in the neighborhood (Canto do Curió 2022b). Moreover, the physical refraction of waves can also play

¹⁵⁷ In the section 'Architectural interventions in 2.º Torrão' in the third chapter.

¹⁵⁸ In the section '2.º Torrão in mass media' in the third chapter.

¹⁵⁹ More about this community-based project in the fourth chapter to this thesis.

¹⁶⁰ Sensors which were placed and retrieved at the bottom of the Tagus Estuary with the collaboration of local fishermen, as explored in the previous chapter.

a significant role in flooding events along this coastline (Mengual et al. 2022). These results were important not only to the whole Tagus' Estuary but, specifically, to other large Estuaries around the world, such as the Gironde Estuary in France, close to the laboratory headed by the leading scientist of the 'New Stakeholders – Sciences' project.

The scientific research for this citizen science project was mostly done away from the place where it was initially situated. Periodic encounters between local stakeholders and the research team, though, helped to create some important exchanges (Canto do Curió 2021, Canto do Curió 2022b). It was in this sense that it was discussed, still in 2019, the possibility that the scientific work could contribute to the establishment of an early warning system. The idea of an early warning in situations of risk wasn't a foreign concept to the community, as fishermen had taken that role in the past¹⁶¹. As the computer model in use by the team at La Rochelle integrated environmental data, it could be used to create a digital interface that could predict flooding risks up to 48 hours in advance. Furthermore, low- cost barriers were envisioned that could protect and mitigate the risks from coastal flooding. The idea of implementing local protection measures was also relatable to the local history, as 2.º Torrão's first houses had arrived at their place after being displaced over the dunes from a neighboring community¹⁶². These perspectives were then owned by local stakeholders through the established dialogue. On September 30th, 2019, the local representative, Paulo Faísca, intervened in a public meeting of the local city council. As the neighborhood had been recently targeted for rehousing motivated by sea level rise by climate change¹⁶³, that has caused restlessness in the community. Faísca's intervention framed that issue and other problems 2.º Torrão was facing, giving a particular emphasis to the 'New Stakeholders – Sciences' project:

"We now know that it is possible to keep 2.º Torrão as a habitat if we build structures that can protect it. These structures can be relatively simple. We have a project funded until 2021 that can work towards this goal. These scientists can also build an early warning system to warn us of possible rough seas. These solutions are short- and medium-term. It is important to understand when we talk about climate change which time horizon we are talking about. When the Mayor talks about relocating the neighborhood because of the sea level rise, she is talking about when?"¹⁶⁴

(Paulo Faísca in Câmara Municipal de Almada 2019b)

The answer from the Mayor Inês de Medeiros in that city council meeting did not recognize the reasoning of the local representative's speech act and didn't reply to his question. In her response, she says: "It's one thing to realize that people have affection for the neighborhood where they live. Now you are telling me that those are conditions to live in..." The President then emphasized that "the risks of living there by the sea and, also, in some cases the

¹⁶¹ As described in the section 'When the sea eats the land' in chapter four.

¹⁶² This is also described in the section 'When the sea eats the land' in chapter four.

¹⁶³ As discussed previously in '2.º Torrão in the mass media' in chapter three.

¹⁶⁴ My translation from Portuguese.

insalubrious conditions are just not possible”¹⁶⁵ (Câmara Municipal de Almada 2019b). She also associates the place with “security issues” due to the lack of electricity (ibidem). Moreover, this positioning remained stable in time throughout the following years, with the city and its technicians disengaging from any dialogue with local stakeholders, their scientists, and the knowledge that has been produced (Canto do Curió 2022b).

The reaction of the sovereign power to the precarious settlement in these passages reflects previous considerations, as the Mayor of Almada reproduced hygienist and security considerations in her reply¹⁶⁶. To our reflection at this point, it is important to consider how the knowledge produced in the precarious settlement of 2.º Torrão became a form of counter-expertise.

As one considers the impact that the production of knowledge of the situated sciences in the precarious settlement can have, counter-expertise emerges as a category. The counter-expertises are defined as being formed against an expert knowledge formed in alliance with the power-holders and a hegemonic narrative (Fortun Cherkasky 1998; Ogien Laugier 2017, pp. 90-93; Barbe 2016). At the turn of the twentieth century in the United States, Kim Fortun and Todd Cherkasky described counter-expertises as engaged in specific collaborative political environments (Fortun Cherkasky 1998). Years later, in Europe, the French ‘Zone à Défendre’ (‘Zone to Defend’ in English, ZAD) became an epitome of counter-power against French development projects. The geographer Frédéric Barbe was one of several academics that were allured by the counter-power of one of the ZADs at Notre-Dame-des-Landes and there identified particular counter-expertises that were in convergence for the struggle of this community against the French state (Barbe 2016). These definitions gave emphasis on how counter-expertises are entangled with militant or activist political movements.

As the sociologist Albert Ogien and the philosopher Sandra Laugier considered the contemporaneous political troubled times, they defined the contrast between democracy and its opposite, antidemocracy, as relatable to a tentative definition of political «populism» (Ogien Laugier 2017). Their definition of counter-expertise is framed by contemporary big data and citizen science, as a form of empowerment for mobilized citizens that are engaged as citizen sensors in their surrounding environment (op. cit., pp. 90-91). This consideration, even if not stated as such, is relatable to Irwin’s first formulation of citizen science¹⁶⁷ (Irwin 1995). Ogien and Laugier further extend their discussion over the notion of counter-expertise to political movements, as whistleblowers’ political organizations (op. cit., pp. 93-101). For their consideration, these counter-expertises integrate the healthy functioning of democracy as forms of caution to take into consideration particular situations and democratic rules (op. cit., p. 90).

The consideration of counter-expertises appears, in this fashion, connected to militant or activist political organizations or as organized groups of citizens, mobilizing

¹⁶⁵ My translation from Portuguese.

¹⁶⁶ As it was approached in the third chapter.

¹⁶⁷ More on this topic in the section ‘the participative turn in scientific research’ in chapter four.

technological apparatus for the defense of their community. The singularity of the co-created citizen science from 2.º Torrão is that it involved formally a techno-scientific assemblage, including diverse actors and scientific institutions¹⁶⁸. The positioning of the power-holders to the knowledge produced, in blatant disregard, relates the nature of the counter-expertise of 2.º Torrão to forms of local-based knowledge.

In the field of sociology of science, it's paradigmatic the research of Brian Wynne over communication of expertise in the fallout of the Chernobyl nuclear accident (Wynne 1992). His research indicated that hill sheep farmers in the Cumbrian mountains of Lake District of Northern England acquired a perception of risk at odds with trusting scientific expertise after a set of unfortunate events and decisions guided by scientific formalizations (ibidem). The paradigmatic nature of this case is in how it helped to recognize the continued tension between official expertise and local-based knowledge systems¹⁶⁹.

Under the lenses of contemporary disputes involving knowledge-systems, the research of the philosophers of science Pierluigi Barrotta and Eleonora Montuschi over the technical expertise mobilized over the Vajont dam is valuable (Barrotta Montuschi 2018). As the Vajont dam, located in Northern Italy, suffered a rupture after a landslide in 1963, Barrotta and Montuschi established a cause for the incident. A lack of consideration for local knowledge, from peasants and mountaineers, was the main motif for no risk precaution being taken in a place locally known by locals to be prone to landslides (op. cit., pp. 20-22). The fact that geology as a discipline was not yet established as a scientific paradigm and the lack of effective communication among engineers and geologists all contributed to the Vajont disaster taking place (op. cit., pp. 24, 31-32).

The situated science of 2.º Torrão, as it was mobilized and appropriated by local stakeholders, was disregarded by the city as a counter-expertise, even if mobilized by scientific norms of peer review and involving known scientific institutions. In the regard of the power-holders, this knowledge became the equivalent of a subjugated knowledge, as in other tragic examples, as it was never included in a dialogue with the city and its technicians, despite several attempts¹⁷⁰. As events unfolded, the schemes of the sovereign power led us to consider its regard over the territory of the precarious settlement and how it's framed by further considerations emanating from political philosophy.

¹⁶⁸ The scientific research of the 'New Stakeholders – Sciences' involved the oceanographers from the University of La Rochelle, Professor Rui Taborda from the Faculty of Sciences of the University of Lisbon, and other scientists from the Portuguese National Laboratory for Civil Engineering.

¹⁶⁹ Which Foucault framed through the concept of disciplinary power as we have seen on the Introduction.

¹⁷⁰ See for this regard the 'Annex 1' with a timeline for the 'New Stakeholders – Sciences' citizen science project.

5.2 Mechanisms of control and its naked men and squared spaces

Several authors reclaim as central the role of the sovereign in dynamics of power, something that Foucault's descriptions of biopower didn't include¹⁷¹. Giorgio Agamben's 'Homo Sacer, Sovereign Power and Bare Life' shows a point of intersection between the juridical-institutional and the biopolitical models of power through the ancient Roman figure of the *homo sacer* (Agamben 1998). As Agamben states, "the production of a biopolitical body is the original activity of sovereign power" (op. cit., p. 6). Agamben ties biopolitics to the emergence of sovereignty and locates it at the margins of political order, in the realm of "bare life"¹⁷². The reach of the political towards this domain of "bare life" is what Agamben describes as the "state of exception", which defines the paradox of sovereignty being simultaneously inside and outside the juridical order (op. cit., p. 15). One of the main theses presented in this work is that this movement of conquer is done through the extension of political power towards these other domains of *zoe* that weren't before under the sovereign's domain (ibidem). Moreover, according to Agamben, the "state of exception" is more and more coming to the foreground as the fundamental political practice (op. cit., p. 20). It's in this context that Agamben takes us inside a camp during the Holocaust, to have our regard to characterize these others that become subjects of a sovereign power:

"Imagine the most extreme figure of the camp inhabitant. Primo Levi has described the person who, in camp jargon, was called "the Muslim", *der Muselmann* — a being from whom humiliation, horror, and fear had so taken away all consciousness and all personality as to make him absolutely apathetic (hence the ironical name given to him)¹⁷³,"

(Agamben 1998, pp. 184-185)

In Agamben's account, the Muslim is caught in the grand schemes of sovereignty inside the camp, and through humiliation, fear, and horror, he is stripped of his subjectivity. Paul Virilio, in *Le Insecurité du Territoire* also comes to describe such naked men through his description of the acceleration of history under the nuclear threats (Virilio 1976). In this book, Virilio offers a sharp geopolitical and philosophical analysis of his middle twentieth century. Virilio, a philosopher marked by wars and struggles, places a geopolitical shift. The United States of America's President Franklin D. Roosevelt is at the center of a global order that was imposed at the end of the great crisis of 1929, the emergence of what Virilio terms as "politics of consumption" (op. cit., p. 166). The "total war" of 1939 ensued and produced emptied places

¹⁷¹ More context over the emergence of the concept of biopower in the section 'Foucault and the concept of biopower' in the third chapter.

¹⁷² Agamben's concept of "bare life" relates to how life was apprehended in Classical Greece, as *zoe* was understood as living, as living is common to all living beings, either men, animals, or gods and *bios*, that was understood as the form or way of living proper to an individual or a group. As the realm of "bare life" began to overlap with the political, "exclusion and inclusion, outside and inside, *bios* and *zoe*, right and fact, enter into a zone of irreducible indistinction" (Agamben 1998, pp. 1, 9).

¹⁷³ Translation by Daniel Heller-Roazen.

and subjectivities, similar to the camp and its subjects, in a similar tone to Levi's "Muslim" described by Agamben. This led, to Virilio's account, to a state of "total peace", in disregard for the agony of developing countries (ibidem). In this period after the war, after the Great Depression, Roosevelt is also the author of the "freedom for want" policy that aimed to steer the United States' citizens toward security and contentment. In many impoverished towns, this meant a continuous dependence on social support. By Virilio's words, the "freedom for want" policy "substituted the man of customary law, entitled to certain prerogatives, by the man of sanitary and social action, that's to say the naked and alone man under the state and the clinical gaze" ¹⁷⁴(op. cit., p. 31). For Virilio's "naked man",

"For the naked man, assistance has become survival, non-assistance, a condemnation to death. Every release has for him invariably the face of death, end, suicide or murder"¹⁷⁵

(Virilio 1976, 1993, p. 32)

This "naked man" taken by the grasp of a "suicidal state" has no other exit than to take the minimal gratification of his wants. The description of Virilio's naked man finds here a parallel with Agamben's description of Primo Levi's the Muslim. Both are stripped of their subjectivity to a state of apathy, subjected to the designs of power holders. Agamben's the "Muslim" as subjected to a totalitarian sovereign state inside a camp, and Virilio's man in need in total dependence on social and clinical support.

Virilio's essay is, moreover, cutting in its indication of a progressive annihilation of the independence between time, space, and subject, and the precise topological character that this power takes (op. cit., 46-52). By Virilio's analysis, the state emerges in this period through the enforcement of laws towards the imposition of a healthy society, very much in consonance with the idea of societies of control, utterly Machiavellian in its essence towards creating insecurity in its territory and population (op. cit., pp. 64, 133). Virilio's specific topological awareness of the new politics (and policies) that are placed, materializes by the definition of the "politics of the square" (op. cit., pp. 163-178). The delimitation of spaces with geometrical lines is no longer a colonial or military affair, but it belongs to urban planning as a "sort of reign of descriptive geometry over nature, over the sites" (op. cit., p. 170). The "politics of consumption" arrives in the living places, which are cleaned, organized, conceptualized as square places.

"The human space becoming that of *no one* becomes gradually the expression of *nowhere*. We realize then, through the prodigious development of orthogonal orthogenesis, that it is an absolute disqualification of the geographical set. The suicidal act associates treating

¹⁷⁴ My translation.

¹⁷⁵ My own translation. In the original French (and with italics by the author): "Pour l'homme nu, l'assistance est devenue la survie, la non-assistance, une condamnation à mort. Toute libération a donc pour lui invariablement le visage de la mort, de la fin, suicide ou meurtre" (Virilio 1976, 1993, p. 32).

the subject and treating the place as – *no one and nowhere* -”¹⁷⁶.

(Virilio 1976, p. 167)

Virilio describes how, after this movement of deterritorialization, these places are re-signified. At the entrance of such squared places, specific ways of behaving and interacting are circumscribed (op. cit., p. 171). His topological focus leads him to define a sense of evolution encapsulated in the definition of such squared spaces by the order of the suicidal state’s urban planning, an “orthogonal orthogenesis”, as he defines it.

To Virilio’s swift and dim description of the state’s “politics of the square” there are parallels to draw with Foucault’s philosophy. We have seen how Foucault’s definition of disciplinary power was framed through his genealogy of knowledges¹⁷⁷ and how the concept of biopolitics is related to the hygienist discourse that is identified to this day in the language of powerholders and scientists over precarious settlements¹⁷⁸. Still, Foucault’s formulations about how power permeates space are of special interest at this point. Foucault’s considerations about biopower differ from Agamben’s, as we have seen, but overall, Virilio’s “politics of the square” gains another strength by considering how Foucault defines sovereignty, discipline, and security from below.

Foucault’s *Sécurité, territoire, population* (‘Security, territory, population’) presents his lectures in Collège de France in the years of 1977 and 1978 (Foucault 2004). In the continuation of his development of the concept of biopower, these lectures further organized the direction of his research on governmentality. Foucault describes the apparatus of security as another mechanism of power, that is to be taken in his historical analysis, not as sequential to discipline and sovereignty but as complementary to these other forms to exert control (op. cit., p. 9). The apparatus of security is defined as a form of power that is defined in phases (op. cit., p. 7): First, by the definition of probable events to a phenomenon. Second, by setting the economic costs of these probabilities. And finally, by the definition of the most reasonable choice and a range of what can be acceptable¹⁷⁹. As security is framed as a question of space, together with

¹⁷⁶ My translation. In the original French: “L’espace humain devenant celui de *personne* devient progressivement l’expression du *nulle part*, nous nous rendons compte alors qu’il s’agit, au travers du prodigieux développement de l’orthogenèse orthogonale, d’une disqualification absolue de l’ensemble géographique. L’acte suicidaire associant traitement du sujet et traitement du lieu – *le personne et le nulle part* -” (Virilio 1976, p. 167).

¹⁷⁷ In the Introduction to this thesis.

¹⁷⁸ In the third chapter, at the sections ‘Foucault and the concept of biopower’ and ‘Falling into the trap of the centralized power perspective: The hygienist discourse’.

¹⁷⁹ In Foucault’s own words (translated by Graham Burchell): “The apparatus of security inserts a phenomenon within a series of probable events. Second, the power- holders insert a calculation of cost to those events. Finally, an average is established considering an optimal situation on the one hand, and, on the other, a bandwidth of the acceptable that must not be exceeded” (Foucault 2009, p. 6). In the original French: “Dispositif de sécurité qui va, pour dire les choses de façon alors absolument globale, insérer le phénomène en question, à savoir le vol, à l’intérieur d’une série d’événements probables. Deuxièmement, on va insérer les réactions du pouvoir à l’égard de ce phénomène dans un calcul, qui est un calcul de coût. Et enfin, troisièmement, au lieu d’instaurer un partage binaire entre le permis et le défendu, on va fixer d’urée part une moyenne considérée comme optimale et puis fixer des limites de l’acceptable, au-delà desquelles il ne faudra plus que ça se passe”

sovereignty and discipline: “Sovereignty is exercised within the borders of a territory, discipline is exercised on the bodies of individuals, and security is exercised over a whole population”¹⁸⁰ (Foucault 2009, p. 11). Following Foucault, the notion of security appears then associated with the emergence of a population to be governed, planning the environment in terms of possible events, while sovereignty is concerned to the configuration of the seat of government and discipline, exerted over multiple bodies, contributing to the structuring of a space (Foucault 2004, p. 22). Foucault frames these definitions in his first class through an historical analysis of the seventeenth and eighteenth centuries, with an acute sense of how these forms of control are exercised through urban development (op. cit., pp. 14-25).

Foucault’s mechanisms of power are concerned with multiplicities, as multiple bodies, multiple subjects¹⁸¹ and can, in this form, render considerations to Virilio’s “politics of the square” as lenses from below. As Virilio defines squares in the territory that the power-holders will make nobody’s land, Foucault’s refined definition of discipline lets one see with further detail how the control of the bodies in space is defined to abide by such grid/ *quadrillage*:

“Discipline, of course, analyzes and breaks down; it breaks down individuals, places, time, movements, actions, and operations. It breaks them down into components such that they can be seen, on the one hand, and modified on the other. It is this famous disciplinary, analytical-practical grid that tries to establish the minimal elements of perception and the elements sufficient for modification. Second, discipline classifies the components thus identified according to definite objectives. (...) Third, discipline establishes optimal sequences or coordinations. (...) Fourth, discipline fixes the processes of progressive training (dressage) and permanent control, and finally, on the basis of this, it establishes the division between those considered unsuitable or incapable and the others¹⁸²”

(Foucault 2009, pp. 56-57)

Foucault’s discipline is, first, set to visualize components to be modified. Second, it designs objectives for these different components, as setting in the control board of the power-

(Foucault 2004, p. 8).

¹⁸⁰ Translated by Graham Burchell. In the original French: “La souveraineté s'exerce dans les limites d'un territoire, la discipline s'exerce sur le corps des individus, et enfin la sécurité s'exerce sur l'ensemble d'une population” (Foucault 2004, p. 13).

¹⁸¹ In agreement with Foucault’s “microphysics of power”, as discussed in the section ‘Foucault and the concept of biopower’ in the third chapter.

¹⁸² Translated from French by Graham Burchell. According to the original quote: “La discipline, bien sûr, analyse, décompose, décompose les individus, les lieux, les temps, les gestes, les actes, les opérations. Elle les décompose en éléments qui sont suffisants pour les percevoir d'une part et les modifier de l'autre. C'est ça, ce fameux quadrillage disciplinaire qui essaie d'établir les éléments minimaux de perception et suffisants de modification. Deuxièmement, la discipline classe les éléments ainsi repérés en fonction d'objectifs déterminés. (...) Troisièmement, la discipline établit les séquences ou les coordinations qui sont optimales. (...) Quatrièmement, la discipline fixe les procédés de dressage progressif et de contrôle permanent et enfin, à partir de là, elle établit le partage entre ceux qui seront considérés comme inaptes, incapables et les autres” (Foucault 2004, pp. 58-59).

holders which workers do what and in which order to ascertain the diverse objectives. Then, the coordination steps are designed to ensure an optimal use of resources so that the progressive training can take place. Finally, the division between those considered suitable and the others sets the division between whom is capable of abiding by the norm and whom is not (Foucault 2004, p. 59). This crucial consideration of discipline in control mechanisms is fleshed by the considerations of Foucault over how discipline was enforced during the plague, with enforcement of allowed spaces, schedules, and behaviors in the town grid, or, during surges of smallpox, how disciplinary and security mechanisms were defined to ultimately assure control (op. cit., p. 10). In this way, Virilio's politics of the square can be reconsidered, with more defined substance, as on how a place of no- one can be designed, considered through an ordained process of control over space and time, so that an ultimate disciplinary control is enforced over its bodies.

5.3 From the safety hazard to the destruction of the neighborhood and its resistance

The situated citizen science in the precarious settlement of 2.º Torrão over the risk of flooding during storms remained ignored by the city council of Almada. According to the Sixth Assessment Report of the United Nations Intergovernmental Panel on Climate Change, the global mean sea levels are going to rise in the proximate future, with greater concern in the period 2050-2100 and impose structural plans worldwide to adapt and mitigate to risks. The city of Almada has supposedly a plan over its whole territory to face the issue that remains hidden from the public eye. To the precarious settlement, which remains uniquely placed in the waterfront, mass media has been using the sea level rise to provoke fear and to define 2.º Torrão as 'no-go area' at least since 2020¹⁸³.

It's in this context that a part of the community of 2.º Torrão receives notifications to attend a public meeting with the mayor and the city council. As I was living in the neighborhood at the time, I received at my doorsteps non-identified technicians who delivered me a piece of paper with the reference of the scheduled meeting written by pencil, saying I should attend a meeting with the mayor Inês de Medeiros. On June 7th, 2022, this meeting was held. Neighbors arrived suspicious and slowly to the assigned place, as rumors abounded that the underground ditch that crosses the neighborhood was at risk of collapse. This underground channel crosses the middle of the neighborhood, and it functions for rainwater drainage in the territory. The city public workers hosted the 2.º Torrão families in the gymnastics hall of the school, controlling the entrances. Inside the space, chairs were arranged facing the city representatives. As the session started, the mayor took the word to announce the problem at hand: The risk of collapse of the underground ditch was the reason for an emergency. The more than 60 families that lived over it would need to have their houses demolished. In the words of the mayor, the city would help the affected families to have access to a national emergency rehousing program. All those

¹⁸³ As we saw in the sections '2.º Torrão in mass media' and 'Places of fear' in the third chapter.

attending the session were invited to start looking for a place to live in the housing market, as the deadline to start the destruction would be at the end of the summer. Neighbors got angry, knowing that the recommended action of finding where to live during the summer days in that region with affordable prices was something very difficult. Still, no further information or other solutions were given. Requests for clarification were denied because they involved particular cases, and each family's situations are referred to private consultations to be scheduled, case by case.

As the summer days flew by, the technical assessments over the underground ditch under 2.º Torrão remained hidden from the public. The great majority of the families living in the designated area hadn't found a new home by that time. A portion of these families remained, furthermore, removed from the situation, never being notified about the problem in the first place. Either working abroad or in the vicinity, the pace of everyday life wasn't open to the rumors that were shared in the coffee places of 2.º Torrão where some people met.

On September 26th, 2022, the Municipal Emergency Plan of the Civil Protection of Almada is activated through a decree approved unanimously in a City Hall meeting. The elected officials had, by that time, access to some information that remained undisclosed. This alert situation was foreseen by the National Authority for Civil Protection as a situation that required the adoption of preventive measures to avoid a catastrophe. With the approval of the emergency plan, the measures to enforce security would involve strict disciplinary control over the assigned area, all of this still unknown to the ones to be affected.

On September 29th, 2022, the demolition machines entered 2.º Torrão under a contract with the city hall to begin the demolition. Simultaneously, the map and schedule of the planned demolitions was presented to some media agents in a closed meeting. As this map becomes public (Figure 1) the next day through mass media, the community of 2.º Torrão finds out that in two days the demolitions will start and will be finished by the end of the starting week. The neighborhood residents' association, which maintained an independent survey of residents, is absent from the process. Two associations remain, though, in the territory and are involved immediately in the support to the families that are anxious and afflicted, some of those remaining excluded from all contacts with city's representatives.

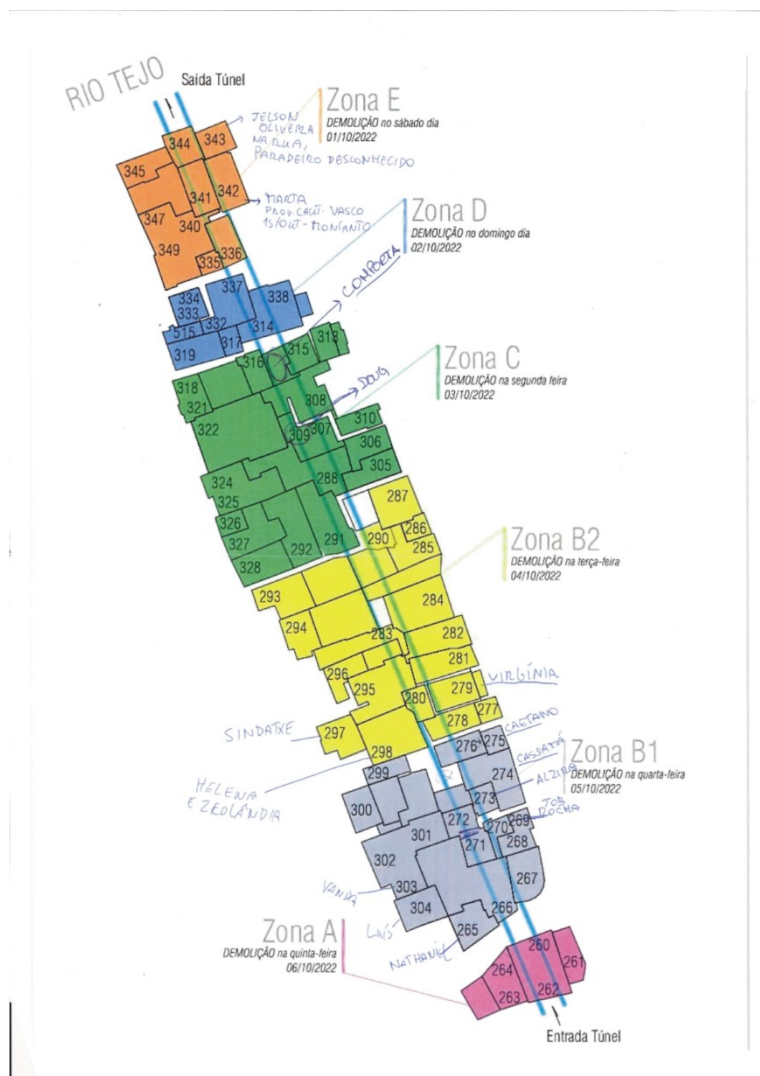


Figure 1 – Almada city's demolition plan in 2.º Torrão – On September 29th, 2022, the Almada city Mayor shared this map¹⁸⁴ with some mass media reporters in a closed meeting. The next day, the community had access to this information through local newspapers. This map presents the scheduled demolition of about 90 houses belonging to about 66 families that were living in the neighborhood of 2.º Torrão. As the map shows, this portion of the neighborhood was divided into six sections to be destroyed in six days, one per day. Also marked in this map with blue lines is the passage of the underground channel that crosses this area, having a cubic structure measuring four square meters in section. The rainwater in the territory flows through this channel to the Estuarian waters. The risk of collapse of this structure could cause floods, with an increased risk at the beginning of the hydrological year in the fall.

With the sun dawn in the assigned day, first arrived at the neighborhood the demolition machines, then some public workers. In the main avenue, the birds had flown away and couldn't be heard under the noise of the motors and the people speaking and moving in hasty movements. As the sun raised higher and the morning got warmer, a crowd assembled. In the tight public space, we could find some of the elected officials, reporters from mass media, activists, local politicians and a North American musician and his team coming to record a video clip. Neighbors gathered in awe at what was a total rupture of daily life. Different teams representing the state visited the afflicted families in turns, giving different assignments, while their neighboring houses were destroyed. There is a team for logistics that gave indications on how to pack all the belongings, another for assessing risk and controlling the situation, another for housing to check all the paperwork, complemented by the social assistance and an animal shelter. All these workers intervened independently and differentiated the cases into different categories: the ones that would have access to the emergency resettlement program and would be displaced to their new home, the ones that had access to the program but would be

¹⁸⁴ This map can be seen with greater detail in the 'Annex 3' at the final part of this thesis.

displaced to emergency shelters, and those who weren't eligible for the resettlement program. The latter aren't informed in these terms, often being promised living conditions that wouldn't correspond to reality.

It was in the middle of the squared portions of the neighborhood, among the implementation of the city's plan, that we could find Sebastião Mutuanguelo quietly on a shaded corner. Sitting, sobbing quietly, no one would notice he was there. He was the son of the old *soba*, the tribal leader of the Mutuanguelo people in northern Angola. He had lived under military discipline, fighting in the colonial war against his brother. He had immigrated to Portugal 30 years ago and was a proud construction worker before the accidents that restricted his mobility. His shelter, a room where he was living, that was neighboring his daughter's family' house, had been destroyed. The social assistant of the state had helped him that morning, by asking a neighbor in 2.º Torrão to host him (Quintas 2022). Most of his belongings had been taken by the city to a warehouse. He is diabetic but had forgotten to keep his insulin, it was lost somewhere. At 58 years old, he felt no more than a shadow of himself in that corner. So many people were around, but nobody noticed he was there. The son of the *soba* was stripped of his own self, his movements were erratic, his eyes despair.

This moment, more than evoking the naked men, as Agamben summoned through the camp as a place of bare life disposed by the sovereign, or Virilio's description of the ones in total dependence of assistance of a suicide state, sees a man that was for a moment lost, but that hangs on in his moments of clarity to his other lost life with his Mutuanguelo people. He evokes a "double- consciousness", of what he once was and how the white world sees him. As William E. Du Bois described, "this sense of always looking at oneself through the eyes of others, of measuring one's soul by the tape of a world that looks on in amused contempt and pity" (Du Bois 2007, p. 8). As Virilio's naked man didn't have any other option of survival than the social assistance, the pride of the son of the *soba* is in his roots, his strength and hope in the return to his past.

The imposed chaos and technocratic order would take hold of the neighborhood for the whole week, at a fast pace, to accomplish the imposed plan. This imposed rupture would affect the health of inhabitants, their ability to attend work, or the possibility of going to school. The nighttime would become the only period to rest and gather forces. To be able to breathe, feed, and share. During the week of the destruction, among the imposed chaos, two groups of neighbors had started a legal battle with the city. Not being recognized as inhabitants, they would come to be the resistance to the forced demolition of their houses, claiming a right to be resettled like the others. The homeplace, as the beautiful essay by bell hooks articulates, in homage to the situated reality of the United States black south, is the place where to find a community of resistance shared by black women globally, especially in white supremacist societies (hooks 1990, p. 42). Resistance is articulated with elegance from this standpoint. The homeplace is where to define resistance as "opposition to being invaded, occupied, assaulted and destroyed by the system" (op. cit., p. 43). Resistance, in this sense, so close to the lived experience of facing the destruction around, is the standpoint from where one can see more

clearly. This movement of resistance would be held in the same homes beyond that week, beyond that month, well into the winter, among the rubble of what once were the houses and streets of a lively neighborhood.

5.4 Colonialism, a forbidden word¹⁸⁵

That day the bodies were tired, but we gathered some strength in the streets. We gathered at the main avenue that afternoon to protest. The inhabitants of 2.º Torrão of the assembly of resistance were there with me and other friends. They had been resisting inside their homes for the past months, among the rubble of what was before their neighbors' houses and the streets they used to walk through. We only had the official numbers of the city to count how many were involved in the forced displacement: 54 families had been moved from 2.º Torrão, most of those through a rehousing emergency plan of the Portuguese state. Twelve families had resisted and didn't leave their homes, as the emergency plan didn't recognize them as inhabitants and the city was threatening them with homelessness.

We had gathered in the neighborhood that morning. The inhabitants had put their courage in their words of truth written on cardboard and took a megaphone to amplify their voices in the street. As we arrived at the city center, I realized that it was the first time that I had seen a political protest in the main street of the city of Almada. I've seen words of order taking the streets, but only to mark the politically important dates of the country. Our protest was lively, we were taking care of each other, wanting to hear whoever took the microphone with our greatest attention and our whole hearts. Simultaneously, that meeting served to share doubts and perceptions over the struggle, to raise pending questions and to look for solutions, whether it be about the ongoing fight in the court, about bureaucratic procedures, or about access to healthcare or basic necessities. Sharing strength, showing support, we believed that the nightmarish situation that some of our friends were passing would have to come to a happy end. They would have to be recognized as inhabitants of the neighborhood in which they've been living and be included in the city's rehousing plan. The political disruption in the city seemed almost unnoticed, though. Some people would look at us while waiting for the overground train. But no grand expressions under the gray winter skies. A couple of colorful people eventually did join us, they would witness and be engaged, and they would return to our assemblies of resistance. Some of the elected officials, in opposition to the political party in power, also came to give their support. Then, turning the corner, we noticed the power-holders. Walking in our direction, they were returning to the city's building, which was just across the street from where we were placed in protest. We raised our fists facing them and voices roared in protest, as they continued without engaging. We would meet later once more in the public town hall.

After the protest, we crossed the street to attend the Town Hall meeting. Inside the public building of the city, the city representatives were having a public discussion. After their agenda for the day was clear, the public had the possibility to intervene, and the Mayor or the

¹⁸⁵ Ethnographic report of the events that took place in Almada's Town Hall Meeting on December 6th, 2022.

deputies in power could answer. In solidarity, we entered the room, sitting orderly at its back. As in other public meetings we attended before, we remained attentive to the diverse topics and the orderly procedures. Our friends of 2.º Torrão in resistance had prepared their interventions, gathered their thoughts from badly slept nights looking for clarity in their messages as they would come to take the stand to question the deputies of the city. As the meeting was nearing its end after a few hours, the citizens who subscribed their participation started to be called, one by one. A few owners of properties had issues with their permits for rebuilding or construction, a group of neighbors had complaints about the growing herbs in their public area. The housing crisis has been developing and in Almada that always made some underprivileged people come and share their anxieties under the disciplined and orderly regard of the deputies.

Caramó Cassamá was the first of the inhabitants in resistance of 2.º Torrão to be called to the stand of the town hall of Almada. At 50 years old, he is an active and passionate person with studies in Literature, dedicating his time to all kinds of construction activities for a living. As he would say that night: "Not everything is bad in the city's intervention, but Mrs. Mayor, you need to speak with your technicians who are on the field. I am traumatized. It's been six months, and I can't recover". Cassamá used to do work stays in Belgium, and now, with the struggle for being recognized as an inhabitant to the house that he has inhabited for more than 25 years and where he raised his children, he was being denied the possibility of being resettled. "Simply by hearsay", he said, technicians had decided who was entitled to be recognized as an inhabitant of the place. Caramó, like the other inhabitants here bringing their displeasure, does it with care. They are in a position of inferiority to the power holders, as it would come down to their decision the resolution of the troubled situation where they find themselves. Cassamá's plea isn't just pending on the resolution of a bureaucratic misstep, he wants to make clear that he and his neighbors in resistance are equals, humans like all the others that were there in that room. "We are similar beings to those that work here at the City Hall, and you are here because we do exist". The deputies don't flinch during the intervention. The Mayor rests in control of the session, dignified, and signals that the time is over. The next in line can take the stand.

Job da Rocha is called next and intervenes to enlighten why the resistance movement remains living among the rubble of their neighbors. He is 42 years old, an engineer by training, and he lives a life of faith, being a strong believer in God and the timely resolution of this terrible situation.

Unlike what the sovereign power of the city had announced, the resistance didn't remain in 2.º Torrão because they wanted to. They were struggling to be recognized as inhabitants. "Any human being would have acted like we did. We couldn't just pack our belongings and go and live in the street. It made no sense" – said Rocha to his audience.

One month and a few days before this day, on October 28th, the families of the resistance received a notification to restart their bureaucratic process for access to the emergency housing program that the majority of their neighbors had previously had access to.

A new notification by the city workers arrived then one month later, on November 20th. These notifications, though, were not recognizing all the members of each family. Without any reason for such a decision, Alzira Martinho, 52 years old, was recognized as an inhabitant with access to emergency housing, but not her uncle, who was living with her, Osvaldo Banha, 35 years old. Virginia Manuel, 44 years old, had been recognized as an inhabitant, as well as her husband, but not their underage children. Her children were studying abroad, looking for better living conditions, sharing their living spaces with other family members, but wanted to continue having a place to live with their mother and father.

“Why were the city workers sending portrayals of our families with missing members?” — asked Rocha. As these families tried before to get an understanding of these situations, the political and juridical struggle of the neighborhood continued toe- to- toe with fear- mongering campaigns by the city, with them being portrayed in the media as not abiding by the law and putting their own lives at risk. This situation had been dragging on for months, with no desire for the city workers to be transparent about the resettlement process or engaging in any actual communication about the risk that was claimed. To add to the confusion, there were some rumors that the resistance would need to be resettled in the same overcrowded hostel in Lisbon’s city center, where many of their previous neighbors had been forced by the city to relocate. Ten families per floor were there, staying at that hostel with some of their belongings, readapting their lives to those new surroundings, sharing one toilet and one kitchen with one electric hob to cook and no space for the children to play. After the situation spilled over to the national media, guests were also not allowed at this temporary housing solution that was prolonged for months.

Most of the families that were once neighbors had been resettled around the whole urban area of Lisbon. Many had serious problems with the infrastructure of their new houses. Serious infiltrations, broken elevators and stairways, and furniture that was ruined. Many also had complaints about how the city, during the forced displacement, had either lost, broken, or damaged some of their belongings. The sovereign power, though, was disseminating how successful the urgent resettlement was through its institutional media. Moreover, during the town hall, one of the deputies in power added that “those people were in much better conditions”. Clearly, this deputy was blissfully unaware of the impeccable conditions that many of those houses that had been demolished in 2.º Torrão offered.

Rocha, who had inquired the deputies about the urgent resettlement process, was naturally worried that his own family had to be separated by bureaucratic order, left to wonder in which conditions his newborn son would be living. Still, trying to keep the head above the mounting pressure, it was important to know even more about the future. This troubled rehousing plan had been quickly put into practice by the city using a natural risk as its reason, and, as an emergency National plan, it wasn’t made to offer more long-term solutions. About 54 families have been affected so far by this measure. The homes they built in 2.º Torrão were immediately destroyed by the city. The emergency resettlement, though, just previewed the state’s support to pay rent for some years. Rocha then asks the city about the definitive

resettlement: “When will that process start, and where are these houses that will once and for all resettle the inhabitants?” Many were moved by this and the interventions that followed. As in other interventions in public meetings, we were aware that it would be difficult to have concrete answers, as those were concealed from the public view.

As the interventions in the town- hall progressed, with the resistance of 2.º Torrão appealing to reason and empathy, it was up to us, as diplomats of these world- views, to be more frontal about the terrible problem our friends were facing. Renata Camargo, 30 years old, a community worker and reporter, was the last to take the stand at the town hall to refer to the struggle of 2.º Torrão. As a native of a riverside community in Rio Grande do Sul, in Brazil, she had her moments of collective disagreement against the central power before. In 2.º Torrão, she had quickly become a caring and loving figure, whom many find as a confider. Her voice was there aware of other friends that couldn't attend, either because they'd been resettled far away and were with health problems or because they couldn't gather the strength to leave the hostel in central Lisbon. As Renata took the stand, she said:

— To say that people are in much better conditions now is a thought that can again be considered the matter of a ‘colonial Almada’, by which people sitting at a desk can order which are the conditions...

Renata's words in defense of the 2.º Torrão were silenced by the Mayor in anger, in a quick exchange that left the room in awe. The Mayor, known to be affected by anger surges, wouldn't allow Renata to continue her intervention unless she would retreat the term ‘colonial’. The Mayor Inês de Almeida was furious:

— I'm going to interrupt you! - said the Mayor, admonishing Renata, with her finger going up and down in the air and raising her voice - To me, the word colonialist is an insult! Colonial or colonialist is an insult! It's not the first time you use this word! Either you take back immediately the expression you used, or I will silence you right away!

In unbelief of the blatant repression, Renata politely refused and invited the Mayor for a dialogue after that town hall. The Mayor nervously ordered her immediate silence. Renata Camargo would be that very same night personally targeted by the Mayor on the social network Facebook for using the word ‘colonial’ in a town hall. As a repercussion, in the following days, the exchange between Renata and the Mayor, which had been video recorded, went viral on social networks and was reported in the national media. Renata started receiving threats to her life. Her usage of the forbidden word ‘colonialism’ had tapped into collective hate. In parallel, given the visibility given to the political struggle, the resistance movement of 2.º Torrão was strengthened by new friends that joined in solidarity.

5.5 The modern sovereign's commandment and its science

A group of inhabitants of 2.º Torrão was imposed a harsh relation to the sovereign power, as a resistance movement was formed to see their right to a house where to live. The fight in the courtrooms recognized the cautionary right not to evict several families without ensuring a resettlement, which blocked the city from continuing the planned eviction. This small victory was, nonetheless, not reassuring to face the future. The sovereign power of the city halted the ongoing destruction process in 2.º Torrão but left the rubble behind and initiated other confusing bureaucratic processes to ascertain the right to resettlement with the families that were resisting. More importantly, the sovereign insisted on a fear-mongering campaign, portraying the resistance as reckless individuals to whom the city couldn't ensure safety due to the perils of collapse of the underground channel.

Race was a concept self-imposed by the sovereign and its disciplinary power, as everyone from the resistance, who were at first excluded from accessing the emergency resettlement program, were of African origin or Afro-descendants. As it happened before with other Portuguese resettlement programs, Africans and Afro-descendants are systematically excluded¹⁸⁶. The reasoning for such decisions isn't explicit, as the bureaucracy hints at structural issues of the Portuguese society, inasmuch related to the capacity of the State's immigration services to issue valuable documentation as to a disciplinary role of the Portuguese social assistant.

Social assistants in Portugal deal mostly with bureaucracy. Their devotion to the power structures is what allows them a living wage. One of the few research projects conducted in social assistance that uses reflexivity on the profession accuses the lack of political positioning of these workers (Teixeira 2023). Many scientific discussions and critical perceptions over social vulnerability pass unnoticed to Portuguese social assistants. Their day-to-day routine is usually dedicated to complying with forms, official statements and a strong hierarchy of power. As a worker once told me under anonymity: "I could only see the necessity of others. For the first time, in the past days, I understood that these people have dreams and that another type of intervention is possible". The inhabitants of 2.º Torrão who were strenuously resisting in their homes were experiencing incredibly harsh situations, such as unemployment and various health conditions. The solidarity movement was the only support. Only one family had access during the winter to food aid provided by the food bank of the local Christian church. All the others had to face social assistants at most as bureaucratic aids, very often as voices of disciplinary commandment, in reflection of the positions taken by the sovereign power.

The positioning of the Mayor of Almada in a town hall, admonishing a citizen with her finger up in the air for using the word 'colonial' is a manifestation of a deeper systemic issue (Câmara Municipal de Almada 2022). As we have seen, Foucault acutely points out in his exposition of the historical emergence of mechanisms of power over the control over space, by which the sovereign power is mostly concerned with its seat of power and its control over the

¹⁸⁶ As it was discussed in the third chapter, section 'The troubled connection to central power: the rehousing plan'.

territory. The form that the demolition intervention in 2.º Torrão took, with a dispositive of security setting the spatial and temporal limits for the undertaking and a strict discipline being imposed over the bodies in that space, was interrupted by a resistance movement. The legal and political forms that such struggle took faced the same continued relation to the sovereign, as it became clearer the parallel with the force of commandment in a colonial rule.

“Of commandment” is a critical essay by the philosopher Achille Mbembe, published as a chapter in the book *On the Postcolony* (Mbembe 2001, pp. 24-65). As Mbembe reflects upon the colonial times to bring reason to contemporary relations in Sub-Saharan Africa, we find interesting parallels to our case study in the Portuguese precarious settlement. The commandment was, first of all, a form of exercising power by a sovereign over a native (op. cit., pp. 32, 59). This power was manifested through a right over the other,

“Commandment itself was simultaneously a tone, an accoutrement, and an attitude. Power was reduced to the right to demand, to force, to ban, to compel, to authorize, to punish, to reward, to be obeyed—in short, to enjoin and to direct. The key characteristic of colonial rule was thus to issue orders and have them carried out”.

(Mbembe 2001, p. 32)

As Mbembe explains, the imposition of commandment involves a “supreme denial of right”, as the colonial sovereign power creates the space over which it exercises its commandment over the native (op. cit., p. 22). As it does so, it considers itself to have the sole power to judge its laws (ibidem). This functions, according to Mbembe, as a “founding violence” that sets the tone of the relations of power in the colony (ibid.). What distinguishes Mbembe’s approach is how it fits the definition of the colonial commandment over the relation between the imaginary and the real. By his words, the commandment was “a mode of exercising power”, but also “a set of perceptions, a way of imagining the colonized subject and investing that imagination with a reality that became, as a result, objective not because such a reality actually existed as described, but because people acted from and in accordance with what they took to be real” (op. cit., p. 59). It’s in this way that the commandment confuses civilizing with ruling, under the belief that forcing a given discipline will bend the moral character of the colonized (op. cit., p. 31).

The colonial commandment described by Mbembe distinguishes itself from Foucault’s disciplinary power by a fundamental role given to the imaginary. The colonial sovereign projects itself as the “organizer of public happiness” for the colonized and, simultaneously, it sets an “imaginary of the native” with a set of beliefs regarding his or her identity (op. cit., pp. 31, 33). This assumption is centralized in the role of the colonial master, but also distributed through others that partake in the “*Politique indigène*” (op. cit., p. 33).

For a more acute critical regard on contemporary forms of sovereignty informed by the colonial rule, we find of interest the way that the anthropologist and philosopher Joseph

Tonda articulated the concept of the “modern sovereign” (Tonda 2005). These very same relations of power that Mbembe articulates through the concept of commandment, which are both imagined and real and distributed throughout different actors, have a correlation with Tonda’s analysis of the reality of Central Africa. The violence exerted in an unequal manner through spaces of disinheritance (the camps) in paradoxical processes of consent and connivance defines the “modern sovereign” as a *social relation* (op. cit., p. 9)¹⁸⁷. Tonda takes these considerations into another book, the inspiring *Afrodystopie. Le vie dans le rêve d’Autrui* (Tonda 2021). This book has as a starting point the speech act of the former president of the Republic of Gabon, Léon Mba, as he stated that “All Gabonese have two fatherlands, Gabon and France”¹⁸⁸ (op. cit., p. 13). To Tonda’s account, this statement is revelatory, as it organizes a relation that is as real as it is imaginary (ibidem). This relates to certain projections from the political elite, such as considering Gabon as a far- west or its citizens as savages, which structure the social relations of the modern sovereign (op. cit., pp. 109-113). For Tonda, the modern sovereign, as a social relation, conveys an oneiric reality that is proper to Central Africa, or, in other words, makes Africans or Afro-descendants to live inside the other’s (the political elite’s) dream (op. cit., p. 42). With a warning voice, he says that:

“President Léon Mba, the African or Afro- descendant elites and subaltern classes in the West *are not there where they think and they do not think where they are*”¹⁸⁹

(Tonda 2021, p. 42)

As the language of the colonizer has been appropriated, its civilizing mission is parallel to Gabon’s Mba (op. cit., p. 38). As Tonda states that Mba, the elites, and the African or Afro- descendants aren’t there where they think they are and, simultaneously, do not think where they are, he is revealing how the role of the imaginary is crucial. Mba’s statement, asserting that all Gabonese have to fatherlands, including France, is relatable to these other declarations from Gabon’s political elite, creating a relation to its citizens that had the recent colonial past as a reference. The denial of its citizens’ rights isn’t as extreme as Mbembe’s

¹⁸⁷ According to the quote (my translation): “The modern Sovereign is not a Subject, acting from outside individuals and groups and from both outside and inside individuals, groups, from classes in permanent confrontation, either directly or indirectly, by the logic of spaces of disinheritance, disinherited spaces that are the “camps”, its violence is exercised by the social subjects involved in a discriminated or unequal manner in these contradictory and paradoxical processes of consent and connivance. It is in this that the modern Sovereign is a *social relation*” (Tonda 2005, p. 9). In the original quote in French: “Le Souverain moderne n’est pas un Sujet, agissant de l’extérieur des individus et des groupes et qu’il agit à la fois de l’extérieur et de l’intérieur des individus. des groupes, des classes confrontés en permanence. De manière directe ou indirecte, à la logique des espaces de déshérence, espaces déshérités que sont les “camps”, sa violence s’exerce par les sujets sociaux impliqués de manière discriminée ou inégalitaire dans ces processus contradictoires et paradoxaux de consentement et de connivance. C’est en cela que le Souverain moderne est un rapport social” (Tonda 2005, p. 9).

¹⁸⁸ My translation from French.

¹⁸⁹ My translation. In the original French: “Le président Léon Mba, les élites et les classes subalternes Africaines ou d’origine Africaine en Occident *ne sont pas là où elles pensent et elles ne pensent pas là où elles sont*” (Tonda 2021, p. 42).

account of the commandment over the colonized, but we see a similar mechanism, a capture to an imaginary account, a double of the reality. The oneiric dimension is a fundamental part of life in Gabon, as it is in both in the Democratic Republic of the Congo (DRC) and Congo-Brazzaville. Tonda's warning is then revealing on how the unconscious plays a role to Africans and Afro-descendants (op. cit., p. 42).

To the social participation from the margins, our case study is distinct from the African reality to Tonda's account, or from the colony, as Mbembe reflected upon. But there are interesting parallels. To our case study, the science and the technicians behind the forced displacement in 2.º Torrão remained mostly hidden from the subjected individuals. The sovereign, to this regard, remained the sole source of information through mass media, insisting on its politics of fear. This is complemented by a series of behaviors that reveal the lack of due process, not recognizing the inhabitants' rights: There weren't any official notifications until the destruction; City's technicians doing surveys or delivering messages weren't properly identified; The safety hazard was communicated through fear and the needed disciplinary action without much more information being conveyed. This leads to believe that the regard of the sovereign power and its disciplinary and safety mechanisms differentiate the precarious settlement in a particular way: relatable to the social relations described by Tonda as the modern sovereign. Moreover, the role that the colonial imagery takes is confirmed by certain speech acts of the sovereign power.

The inhabitants of 2.º Torrão that were resisting in their homes, fighting to be included in the resettlement program of the city, were finally recognized as suitable after long eight months of political and juridical struggles. At that time, in a public meeting of the Almada city council, the elected deputies again discuss the emergency relocation of 2.º Torrão (Câmara Municipal de Almada 2023). The Mayor states her belief that inhabitants were induced to fight in court by certain agents who made them misleading promises. As she had stated to the press before, she doesn't recognize in the inhabitants the agency to deny compliance with her rule. She, furthermore, considers that residents in struggle have seen their access to housing delayed by having fought through the courts. Justice or the rights of the precarious settlement's inhabitants had no place in the sovereign's regard. As elected officials question these statements, the councilman responsible for housing in Almada Filipe Pacheco justifies the long delay in the urgent processes of relocation. He elaborates on the amount of work that the city's department of housing' technicians have and the special attention that was given to these few families that were resisting. According to him, there were special considerations to take into account about these inhabitants: "We are talking about many illiterate people or people who do not understand Portuguese"¹⁹⁰ (Pacheco in Câmara Municipal de Almada 2023). These considerations of the Mayor and the deputy are in stark contrast with the reality, as the inhabitants that formed the resistance all spoke Portuguese, had their own political agency and were literate, most with studies in the humanities and technical sciences. These differences between the imaginary of the political elite of the city of Almada and the reality raise considerations over the importance of a specific social relation that is established, as the

¹⁹⁰ My translation from Portuguese.

modern sovereign, as proposed by Tonda, takes its place in the relations of power in this council.

In addition, the power-holders in Almada impose a regard on its security apparatus that is relatable to Mbembe's considerations on colonial commandment. Without any specific information given to the affected ones about the character of the safety's emergency, they should abide to the disciplinary control with no further considerations on their rights, as the sovereign's power over the squared spaces in the precarious settlement was, first of all, imposed by the destruction of their homes.

To our research over the role of science in the precarious settlement, the form that science took by the modern sovereign's rule takes some considerations. As the political and juridical struggle developed after the emergency was declared by the city, the reason behind it was discovered through the mass media. The Civil Protection of Almada had issued an internal report that substantiated the emergency plan. The seven-page "SMPC 462" report that was made following a technical visit warns for the need of immediate unblocking and cleaning of the underground channel that goes across underground over 2.^o Torrão and elaborates on the integrity of this cubic structure measuring four square meters in section¹⁹¹. As a neighborhood resistance engineer later verifies, despite the report being signed by two civil engineers, the density and resistance of the reinforced concrete covering remains unknown. Strangely, the report still devotes more than a third of its pages to sea level rise due to climate change with data of vulnerability to sea level rise until 2100. The risk of flooding due to the structure collapse has no supporting study, only a technical evaluation by sight. The data presented doesn't correspond to a risk assessment of flooding by submersion due to sea level rise. No local studies of any science are cited or included. The report recommends, however, the demolition of the houses that were built over the ditch according to the plan that was enforced. As we are considering a precarious settlement, it becomes obvious that such recommended action wouldn't be compatible with the urban area. The neighboring suburban area wouldn't be dispatched with such disregard. To the only precarious settlement that remains at the margins of the Estuarian waters, climate change is then mobilized through a security apparatus' technical assessment to a commandment of the sovereign power.

In conclusion, the situated science of the neighborhood is in contrast with the science as a commandment by the power-holders. As the situated science was taken by the power-holders as a form of counter-expertise, it was disconsidered as in other tragic examples of local-based knowledges. As we consider the economic dimension that motivates the security apparatus of the sovereign power in 2.^o Torrão, one is left to consider how the economic desire of a coastline is comparable to the desire for diamonds and coltan in the DRC. As in both Congos economic desire steer environmental and human destruction (Tonda 2021, p. 102), in Almada it probably motivated a brutal forced displacement. It became clear how the sovereign power in this county mobilizes its own scientific knowledge in a way that was hidden from the public eye. The strength of the sovereign's commandment isn't questioned by its scientific and

¹⁹¹ This technical report, obtained through mass media agents, is included in the 'Annex 3' at the end of this thesis.

technical frailty, in parallel to Mbembe's colonial description. The imagination of the local political elites places the black population of the precarious settlement stripped of their rights, in relation to Agamben's and Virilio's account of the naked men. Stripped of his subjectivity, we have found one of these figures in the midst of the sovereign's squared, controlled space in 2.º Torrão. In the shadow of his colonial past imposed by the power-holders, he gathers his strength from his origins as the son of a *soba*. To the post-colonial Portuguese reality and its racial politics of housing that we've considered, Alves acutely considers that we have a re-territorialization of colonial relations (Alves 2013). In supplement, the relationship of the modern sovereign emerges by the imposition of the power-holders of their imagination over their subjects as having no rights or their own agency, in similar terms to the definition given by Tonda. To the ones affected was imposed a commandment, enforced by a strict discipline. The resistance, considered from the homeplace, remains where to heal and gain a collective strength.

CONCLUSION

The situated approach for ‘field philosophy’ in this research allowed a portrayal of a historically underprivileged community and of a unique stance on how science was interlinked with the life of this place. On the margins of society, as a periphery to the Portuguese capital, 2.º Torrão defines itself in stories of refuge and solace in its 80 years of history. This is the last precarious settlement in the urban area of Lisbon on the shores of the Tagus Estuary. The first inhabitants were fishermen and *bairristas* from the historical neighborhoods of Lisbon. The latter were settling in this place during the summer so that they could enjoy the estival season like the rest of the urban population. From the first tents, inhabitants started building makeshift houses to stay in this place during the whole year. After 1974, these structures would become more consolidated, and the community would host Africans and Afro-descendants from the Portuguese-speaking countries throughout the last quarter of the twentieth century. Contemporaneously, 2,000 to 3,000 inhabitants live in 2.º Torrão.

This empirical approach allowed taking 2.º Torrão as a field where to situate the philosophical research, developing a unique intersubjective positioning, reflexive of the livelihoods and world-views of this community. From this standpoint, we have created critical relations with scientists and their sciences, questioning their positioning and participative approach. During a period of ten years, several scientists have placed themselves in this neighborhood, using the community as informants or participants in their research by diverse forms. We have seen with greater detail how some architects have used references from the past of their discipline, such as ethnography and direct democracy, to create unique approaches. Also, we have seen scientists using a regime of co-creation of citizen science that have created a lasting impact on this community. ‘Field philosophy’ interviews with these researchers have allowed careful attention on their views over their research processes and 2.º Torrão. This way, the perspectives of both the community and the scientists are reflected in this thesis. The unique approach of a well-positioned philosophy can reflect on wicked contemporary problems from this position. The voices of the under-privileged and the scientists are intertwined with the considerations here raised over social participation in scientific research.

2.º Torrão is considered by the sovereign power and the mass media by the derogatory term ‘*bairro de lata*’ (‘shantytown’). We have seen how social participation in scientific research, once situated in this place, is permeated by questions of power. Generally, Michel Foucault’s considerations of space and power were fundamental in making sense of the precarious settlement and the situated character of its sciences. The definition of

disciplinary power informed our approach. Furthermore, the concept of biopolitics permeates urban development and critical perspectives coming from geography and urban studies. From the standpoint of 2.º Torrão, as in other precarious settlements, we have witnessed how the narratives defining places of fear and 'no-go areas' are associated with the power-holders and are disseminated in mass media. As the unique positioning of 2.º Torrão allowed to identify, the elite in the local power drafted a brutal security apparatus with strict discipline over the bodies within squared spaces drawn on this territory. The science here implied was hidden, the technicians drawing the drastic measures aloft from the day-to-day of the ones subjugated. The source of the security emergency was only later communicated verbally. Structural problems of a channel that was underground, under the squared areas that were drawn on the emergency plan, motivated the forced displacement and immediate destruction of the houses of over 60 families. As it was later found out through the courtroom and mass media, the underground structure that was at risk of collapse wasn't targeted by any analysis of its materials or its density. And vulnerability data on sea level rise from climate change was, after all, also a motive for this intervention. No local studies were considered, apart from the technical evaluation by eyesight of the underground structure, revealing the disproportion between the reason for the action and the enforced security apparatus. In addition, the official communications of the city council convey an image of the inhabitants who have resisted as emptied of their political agency and positioning them as illiterate, in contrast with reality. In the designs of the sovereign power we also find people, in the imposed squared spaces of destruction, as naked, a shadow of themselves, emptied of their subjectivity.

The colonial commandment, as described by Achille Mbembe, was imposed in the colony as a supreme denial of rights. In its image, as we have seen, the commandment of the city council of Almada over 2.º Torrão didn't elaborate on the science, or the rights of the ones affected by the imposition of a security emergency. In addition, there's a role of the imaginary of the city council members when elaborating about the identity and agency of 2.º Torrão's inhabitants. We find here, in this context, an affinity with Joseph Tonda's proposal of the modern sovereign, that was elaborated as a social relation imposed by Gabon's post-colonial political elite on its citizens. The modern sovereign mixes reality with imagination, as it draws from the colonial imagery and the traditions of Central Africa. Accordingly, in our case study, the city has enforced a commandment over 2.º Torrão and imposed their imagined identities of locals in social relations. Therefore, a thesis that was drawn in this research is that the social relation defined as a modern sovereign considers science uniquely as a part of a commandment, reproducing the colonial perspective over the subjugated as stripped from their rights, subjectivities and political agency. It is by recognizing this harsh reality that sciences have come to be situated in 2.º Torrão.

The situated sciences in 2.º Torrão are multiple and diverse in their positioning. We have paid closer attention first to architecture and, second, to a co-created marine sciences' citizen science project. The architects emerge as fundamental for their ability to transform the space of the precarious settlement. Locals look forward to architects coming to the community and being engaged. Still, as we have seen, as close as architects can be to

sovereign power, they can imply a capture by the sovereign's mechanisms of control and attend to their political agenda. Architects who are situated and politically aware can position themselves close to the community as cartographers of possible worlds, sharing their design skills to help others see the dreams they have initiated. Most of the architects we met in 2.º Torrão have implemented cherished products that were appropriated and integrated into the life of the community. Some were even open to exploring routes of emancipation, as they tackled the collaboration with others with an open horizon. These last individuals used the precarious settlement as a place to rehearse new paths for architecture, to discover how to build streets and houses, and how to plan and cooperate, taking on the positions of tutors as well as learners.

The precarious settlement revealed itself as a place of experimentation and possibility. Scientists arrive through different allures. Some were attracted by a social sense of justice, ethically positioned to counter the power of the sovereign. Or, as we have distinguished, some scientists have arrived at the neighborhood through an aesthetic allure, caught by the organic forms and shapes of its buildings and streets, or the informality and the surrounding nature. This aesthetic allure functioned, for some researchers, as a kind of a rupture of the urban day-to-day, as an eruption of life. As we consider how scientists and 2.º Torrão's inhabitants come together, the community as a political form imposes itself. We have made an important distinction in this regard. Communities based upon consensus, as it is the case of the communitarian media, are places of solidarity and cooperation, but with compromise to common goals. As Raquel Paiva envisioned, communitarian media can come to be an institution, a formal body formed through a territoriality at the social margins based upon the sharing of media tools to fight the sovereign's control and recognize a proper subjectivity. In contrast, as Jacques Rancière formalizes, his notion of equality can only take the form of uncertain communities, as it is the nature of the community that gathers as equals to question the nature of the roles taken, or even the notion of territory. Dissent will always be the heart of a true community. The formalization of a community as a counter-power might mean being captured by a hegemonic order of fixed places and functions that is counter to the open horizon of possibilities that we can discover together.

As we follow a situated co- created citizen science project in 2.º Torrão, we saw how it relates to the lived experience of the settlement. Will the sea 'eat' the neighborhood? This question organized parts of the community of 2.º Torrão for years. As the last precarious settlement placed at the margins of the estuary, this place offers unique stories of resilience. To face the risk of sea flooding during storms, the first houses of this community arrived at their place pulled by oxen. The relocation was a form of protection invented by an ingenious entrepreneur. Likewise, the alert system for the risk of sea flooding in the mid-twentieth century was dependent on the fishermen, who would visit their neighbors and give the dire message of a coming storm. As the scientific researchers arrived and engaged with the community, they have received as much as they have given. The character of local- based subjugated knowledges might seem invisible to the city, but it has gained visibility with this project. As the stories and the history of coastal floodings were drawn, the scientists used this

data, the information of citizens as sensors to model the problem of coastal flooding during storms. As this scientific research developed and arrived at conclusions, it revealed that the coastal flooding in this territory is probably due to a type of wave that has been identified by locals: the infragravity waves, as oceanography names them, or the licking waves, the term locals designate. These have high energy and were identified as invading the settlement during storms. More importantly, the research results reveal that the phenomenon of sea flooding is probably not related to climate change but to a proper characteristic of the highly dynamic morphology of the coastline. Local stakeholders then led, with the scientists and mediators by their side, the possibility of implementing a new alert system and low-cost floating barriers to mitigate the sea invasions. As the project tried to engage the state and city's figures related to civic protection, these proposals weren't considered. Later, the scientists, organized with prestigious national and international institutions and their peer-reviewed results, were considered, politically, as counter-expertises and ended up despised by the sovereign power as the demolition machines entered the neighborhood. As we considered furthermore this situated approach, it remains the will to tap into its potential: Can these unique topologies of living communities like 2.^o Torrão come to be considered as places to think alternative world-views to the urban landscape? As a living community built on interdependence and immersed in relations with the natural elements, singular knowledges appear, just like the 'licking waves' that were identified as significant during sea invasions. There is, in this sense, a parallel to be drawn with the world-views of indigenous peoples. As we have seen, by the definition of philosophical anthropology by the 'ontological turn' movement, the connection to a piece of land can signify the world around. We believe that this thesis is related to the anthropological views from below that emanate from our bonds to the Earth, situated in the precarious settlement.

As we reflect on how to be situated, some paradoxes are revealed. The modern sovereign, as a social relation, places a colonial imaginary within the considerations of a political elite, which represents a displacement from reality. The Mayor, her deputy and their 'social assistant' might be there facing someone without a part but will think of someone else. Like the Gabonese elites described by Tonda, they aren't where they think they are, and they don't think where they are. As we have brought this problem closer to the reality of the scientist placed in the neighborhood, we have found a similar paradox. The situated scientist under consideration is thinking of the local problem, but he is relating to the opinions of some other invisible people that he imagines in the urban landscape. It seems like a knee-jerk reaction, something plausible and expectable, as it invokes a homogeneous regime of the visible, but it is deeply troubling if we really want to be situated at the margins and really deal with our wicked problems. This is also a problem of a philosophy of science that wants to be engaged in giving political order to science. Kitcher's well-ordered-science shows the same problem, the subjugated knowledges are watered away by his formalizations attached to idealism. His model relies on the presence of ideal deliberators, able to intake all possible viewpoints and enlighten everyone at once. If the problem is wicked enough, the ideal deliberator might be replaced by a multitude foreign to the issue to have the same role. The paradox of the situated scientist has, then, a similitude with the paradox of the ideal

deliberator, as these figures want to relate to multiple perspectives that aren't present. These paradoxes reveal a critical stance. Nonetheless, these inferences aren't supposed to act as gatekeepers for the engagement in these issues. These paradoxes are real and reflect the contemporary political positionings of researchers in- between different world- views. As Kitcher well considers, it is the role of a well- positioned philosophy to deal with these messy matters. To think about the nature and character of scientific research from the social margins is counter to an idealized version of a social nature. Our challenge remains to relate to critical epistemological and philosophical contemporary issues coming from that situated perspective.

An epistemological view of the subjugated knowledges of the precarious settlement revealed that specific epistemic roles can be taken. As it was explored in the fourth chapter, a particular citizen science project allowed the cosmopolitical definition of epistemic roles for the scientist, the researcher-mediator and the fisherman. Considering the encounter of the ones living at the margins and the scientists and their different world- views, Stengers's definition of cosmopolitics operates a diplomatic stance. Cosmopolitics depends upon a *mise en égalité*, which shouldn't be confused with a *mise en égalité*. A game of revolving chairs wouldn't respect the cosmopolitical event. The epistemic role that scientists take in the cosmopolitical gamble depends upon an etho- ecological standpoint. The scientist needs to situate his or her knowledge in relation to the surrounding environment. The figure of the fisherman of the Tagus Estuary has proven to be particularly challenging, as the profane knowledge they have of their surroundings is implicated with mythical and ecological dimensions. The practical implications of the engagement of the fisherman in scientific research have shown how socially implicated the knowledge of the fishermen in the halieutic space is, this proving to be especially challenging to the ordered world- view of the technoscientists. Furthermore, a situated regard of the Portuguese fishermen has shown their increased precarity and political frailty, which contributes to their epistemic construction of ignorance. To where these inferences allowed us to consider, it remains open the possibility of doing and reflecting more about this meeting with different worlds, as the project we were following didn't allow to distribute power more evenly and to tap with further depth into the world of fisheries of this territory. Still, to consider these different world- views, the researcher-mediator plays an important epistemic role in balancing these risky matters. By comparison to other established roles of mediation for a researcher, as the honest broker or the boundary spanner, the researcher-mediator in this case is closer to non-confined open- air science. As both the honest broker and the boundary spanner have been found in the literature as figures of researchers engaged in social mediation, the researcher- mediator in the open- air gives an important practical perspective to researchers in the human and social sciences to relate in close proximity to the social margins and its forms of subjugated knowledges.

Concluding, this thesis is placed against the idea of development and consensus. The concept of resistance was here evoked, through Isabelle Stengers, for us to position ourselves against a world-wide capitalism that is taking everything with its tentacles and continues to destroy livelihoods, knowledges and ecological sites. To resist means to foster

participations in our world that won't take these divisions between the techno-scientific and the local-based knowledges as granted. We can forge alliances, but we need more than a democratization of practices, we need an actual confluence of world- views, to position ourselves with our kin. The social margins are not just the place for the have- nots. This standpoint revealed many possibilities. It is in the social margins that we can discover a new home for science and to the resistance to our troubled times.

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ANNEX 1

PROTOCOLS FOR FIELD PHILOSOPHY INTERVIEWS

Protocol for field philosophy interviews with locals from 2.º Torrão and Trafaria (2019/ 2021)

The fields here signed define, first an inquiry towards the identity of the interviewee and, afterwards, different questions towards their regard over the territory and their sense of place. These questions weren't compulsory, as this protocol was defined as semi- directive. What was privileged in the interview was the critical dialogue and the engagement in local issues and world-views.

IDENTITY

1. What's your name?
2. How old are you?
3. Where are you from?
4. What is your professional activity?

RELATION TO THE TERRITORY

6. How long have you been living in 2.º Torrão?
7. Why did you come to live in the neighborhood?
8. Do you enjoy living in 2.º Torrão?
9. Do you like your home?
10. How do you see or feel 2.º Torrão? Do you think you belong here?
11. Would you like to live somewhere else? Where?
12. Do you have any concerns about your life in the neighborhood? What could be improved and who do you think that is responsible for those improvements?
13. What do you think it's important to improve in the neighborhood?
14. Do you have any proposals for improving the neighborhood?

RELATION TO THE SEA AND EXTREME EVENTS

15. Did you ever feel threatened by the sea?
16. Did you see any impacts by sea invasions in the neighborhood? Which?
17. Are you worried by coastal erosion? What about flooding events?
18. Do you have any recreational or work activity related to the sea?
19. What do you like the most about the sea? And what do you like the least?

Protocol for field philosophy interviews with scientific researchers (2019/ 2021)

The fields here signed define, first an inquiry towards the identity of the scientist and, afterwards, different questions towards the regard over the territory. These weren't compulsory, as this protocol was defined as semi- directive. What was privileged in the interview was the critical dialogue. Among the questions, the researcher was invited to fill a table, by which he or she would be invited to position social participation in their scientific research. Again, what mattered in this approach was the critical dialogue that ensued, more than what the researcher had registered in the table.

IDENTITY

1. Name
2. Age
3. Origin
4. Discipline/ Areas of interest
5. Professional category
6. Professional responsibilities

RELATION TO THE TERRITORY

7. How is your relationship with the neighborhood of 2.º Torrão and/ or with the territory of Trafaria? Do you have something that you consider as special in this region?
8. Do you feel any intimacy with this territory? Do you have any proximity to some natural or physical characteristic or towards its inhabitants?
9. Is there something that disturbs you in this territory? Some problem that you consider? And do you identify causes or some agent that you consider as responsible?
10. What solutions to local problems you envision? Or is there something you would like to transform?

RELATION TO THE SEA

11. Do you have any personal relation the Sea or the Ocean?

RELATION WITH INSTITUTIONAL COMMUNICATION

12. Does the research unit you belong to has a communication strategy or communication professionals? Is your field work engaged with institutional communication?

SOCIAL PARTICIPATION IN SCIENTIFIC RESEARCH

13. The scientist is invited to independently fill a table. He or she can answer from the standpoint of his or her concrete past experience, or from the belief of the potential involvement of others.
14. Do you think that lay people can be equals in a scientific research process?
15. What are the greatest obstacles to establish a relationship with your participants, informants, stakeholders or public? How to overcome such obstacles?
16. Do you think that social participation can contribute to a better quality of scientific research? How?

DEFINITION OF POTENTIAL PUBLIC ROLES IN SCIENTIFIC RESEARCH

	NO ROLE ASSIGNED TO THE PUBLIC, SCIENTIFIC COMMUNITY EXCLUSIVE IN THE DEFINITION	PUBLIC IS CONSULTED	PUBLIC CONTRIBUTES TO THE DEFINITION IN A MORE OPEN FRAME	PUBLIC CO- DEFINES THE ISSUE (EQUAL STAKEHOLDERS)	SOCIAL STAKEHOLDERS LEAD THE ISSUE WITH THE CONTRIBUTION OF RESEARCHERS	SOCIAL STAKEHOLDERS DEFINE THE ISSUE WITH THE CONSULTATION OF RESEARCHERS	SOCIAL STAKEHOLDERS DEFINE INDEPENDENTLY WITH NO ROLE FOR SCIENTISTS
IDENTIFICATION OF PROBLEM/ QUESTION							
DEFINITION OF RESEARCH – PROTOCOLS							
DEFINITION OF RESEARCH – TEAM							
DEFINITION OF RESEARCH – FINANCING							
RESEARCH – DATA COLLECTION							
RESEARCH – DATA TREATMENT							
COMMUNICATION – PEERS							
SCIENCE COMMUNICATION							
EVALUATION							
OTHER:							

ANNEX 2

TIMELINE FOR THE PROJECT NEW STAKEHOLDERS - SCIENCES IN 2.º TORRÃO ALMADA (2014-2023)

Timeline – New Stakeholders – Sciences

2.º Torrão, Almada

(2014 - 2023)

New Stakeholders - sciences was a co-created citizen science project situated in the neighborhood of 2.º Torrão, in Almada. It ran for 8 years through different local stakeholders and diverse dynamics. Here is presented a timeline as an annex to the present dissertation.

February 16th, 2014

First kickoff meeting between mediator- researchers and young adult inhabitants of 2.º Torrão setting a regularity in meetings during weekends and a space, next to the headquarters of the inhabitants association. The questioning dynamic produced the first pool of relevant questions. This initiative has the support of a French programme, *Nouveaux Commanditaires – Sciences*, belonging to a social cooperative, *Atelier des Jours à Venir*, that supports materials for the meetings and volunteer's travels. Local volunteer researcher- mediators are João cão, Coline Salzmänn and Diana Dias.

February – April, 2014

Questioning meetings between young inhabitants of 2.º Torrão and researcher- mediators.

April 25th, 2014

Among the open questions that came from the questioning meetings, the most important questions are selected for the group of young participants. By a decisive intervention of M., a young leader, a question is selected as the most significative: Will the Sea eat the

neighborhood?

June – September, 2014

Interviews are held by volunteers and one child that lives in the neighborhood, inciding over the importance of the three questions selected at the podium of the questioning group of New Stakeholders – sciences. The sea invasion at the neighborhood is selected as the problem to be studied.

October – November, 2014

Presentations and talks about the research process of New Stakeholders – Sciences at the headquarters of the inhabitants association with a mapping proposal for the sea invasion during two sundays (one in October, another in November).

March – May, 2015

Group of children takes the helm of the project, mapping the problem of the sea flooding in the neighborhood. For five sessions the children lead interviews to their neighbors with the support of adult volunteers. Meeting point of the project changes to the yard where the group of children usually meet.

April 8th, 2016

A preliminary research starts with Tatiana Arquizan, anthropologist, and João cã, research-mediator developing a protocol to continue interviewing inhabitants over the sea flooding, this time in a more structured fashion than the interviews led by children. The first interviews of this round start on April 8th.

June 2015- April 2016

The project asserts its compromise with community development. Regular meetings with the group of children continue, exploring activities directed by them. Jelson Oliveira blimblim,

local representative for the youth of the inhabitants association, joins the project team as facilitator.

July 2016

The preliminary research over coastal flooding of the New Stakeholders – Sciences gets more robust, with the first application to funds approved by Ciência Viva, a Portuguese government programme to promote scientific culture. Mapping of coastal flooding goes forward in 2.º Torrão and neighboring communities with a dedicated team of facilitation (João cão, Tatiana Arquizan, Joana Trindade, Jelson blimblim) collecting narratives, newspaper articles and photographs. Specialized equipment is used: audio recorder, photo camera, 3D model of the neighborhood.

September, 2016 to October, 2017

Sociological research lead by the anthropologist Tatiana Arquizan over the relevance of the methodology and community engagement of New Stakeholders – Science in the neighborhood of 2.º Torrão.

May 6th, 2017

Coastal geology researchers Ana Pestana Bastos and César Freire do field work to have a geo-referentiation of places that correspond to the limit reached by floods in 2.º Torrão.

Summer of 2017

Pop- up exhibit of the project was displayed in the neighborhood, in the neighboring community of Cova do Vapor and in the School of Arts and Humanities of the University of Lisbon.

Summer camp for children from Trafaria with different partners from the region and the University of Lisbon.

Also sponsored by the citizen science project, FRAME Colectivo, an architectural firm, re-

qualifies three areas in the urban space of 2.º Torrão.

June to November, 2017

Paulo Faísca, Maio Agostinho and Mário Silva, direction board members of the Inhabitants Association of the Neighborhood of 2.º Torrão elected few months before, become stakeholders of the New Stakeholders - sciences. Rui Taborda, geologist, also joins the team.

July 2017

Installation of four new water branches for the houses in the neighborhood of 2.º Torrão, improving a lot the public infrastructure and giving the inhabitants access to an increased flow of running water.

August 9th, 2017

Formal communication of the end of the collaboration between the City and the Inhabitants Association of 2.º Torrão. This statement was identified with the code 793/2017 and was deliberated in a City Council meeting at this day. The identified cause for this termination was a public housing program, called '1.º Direito' ('First right'), "that proposes, among other things, to eradicate the precarious housing nuclei, to provide infrastructure and to legalize informal settlements, in which is included 2.º Torrão"

October 28th, 2017

Inês de Medeiros wins the election for the City Hall of Almada. This way, the Portuguese Socialist Party, associated for decades to the power of the central government, is able for the first time to take power in Almada.

March 6th-9th, 2018

Destruction of the house of the project facilitator Jelson Oliveira blimblim and his family in the avenue Torre Alta in 2.º Torrão. Jelson's family is resettled. Local representatives of the

Inhabitants Association of 2.º Torrão (Faísca, Agostinho) say that it was communicated to them by technicians of the City Hall of Almada that at any moment the whole neighborhood will be resettled.

July 27th, 2018

A young inhabitant of 2.º Torrão, Nkaka Sessa KPerrom, joins the team of New Stakeholders – sciences as a community and art mediator – working on serigraphy and rap/ hiphop.

October 25th, 2018

A report on the occupation of the territory of Trafaria – Costa da Caparica airs on National TV (Vindeirinho 2018). 2.º Torrão is referenced as a shanty town and agglutinated in its references with another black precarious settlement, Terras da Costa.

November 19th, 2018

The Littoral Committee of the philanthropic network Fondation de France sponsors the scientific research of New Stakeholders – science, interested by the scientific and political dimensions of the project. This research is lead by the oceanographer Xavier Bertin and allows the contract of the post- doc Baptiste Mengual, both from the University of La Rochelle. Included in the research team are Rui Taborda, from the University of Lisbon and André Fortunato and Paula Freire from the Portuguese National Laboratory for Civil Engineering.

December 12th, 2018

First meeting between researchers and local stakeholders, establishing a cooperation dynamic.

December 13th, 2018

Installation of the first pressure sensors in the floor of Tagus' Estuary facing the neighborhood

of 2.º Torrão, technical equipment that will retrieve important information for the understanding of the Estuarine dynamics during storms.

July 19th, 2019

Statements from Inês de Medeiros, Mayor of Almada to the national newspaper Público: “The dignity of the housing stock” will serve “to resettle a significative amount of the population that today is living in sheds” (Rito 2019). She indicates that 400 families of 2.º Torrão will be included in that resettlement programme.

September 18th, 2019

During a project meeting, the direction board of the local Inhabitants Association accuses that, since the summer, residents are outraged with the association, given the collective's complicity with Almada's City Hall, which is creating panic announcing the destruction of the neighborhood. “The population is scared, convinced that they will be relocated” (2019, Mário Ferreira).

Inês de Medeiros, Mayor of Almada, contacts the president of the local Residents Association by telephone during the collective meeting we were participating in. She informs that the residents of the 2.º Torrão neighborhood will not be resettled in the housing stock (in opposition to what was declared to the press).

September 27th, 2019

João Cão and Tatiana Arquizan on behalf of Novos Decisores – Ciências intervene in the session of the Municipal Assembly of Almada, in Laranjeiro (vídeo recording referenced in: Câmara Municipal de Almada 2019a). João defends another vision for what is commonly called by this political elite as “shack neighborhoods” (“bairros de lata”, also named as “shantytowns” in the English speaking world), as they define very different informal construction spaces. He refers the belonging to the place of these residents, after generations passed since the 1940s when the first people arrived to occupy the territory. Tatiana does a technical presentation of the project, listing its trajectory, partners and capital investment. A testimony of the New Stakeholders – sciences approach is given to the councilors present at

the Assembly. It is placed as essential to involve residents in the spatial planning of the territory. In response, the Mayor does not respond to the call for community engagement and stresses the urgency of relocation.

September 30th, 2019

In another session of the Municipal Assembly of Almada in Laranjeiro, Paulo Faísca speaks on behalf of the local Inhabitants Association (reference to the vídeo recording at: Câmara Municipal de Almada 2019b). The resettlement of the neighborhood announced as urgent due to the increase in the mean sea level due to climate change is questioned. The New Stakeholders - sciences research could result in the implementation of measures to protect and mitigate present flooding risks during storms (Early Warning System and low-cost floating structures to break the waves), as the document delivered at the last Assembly session had already addressed. Faísca accuses and asks:

- The unforeseen announcement of resettlement of 2.º Torrão, without dialogue with the community caused instability,
- Need for a timeline – When is the resettlement planned and how does this relate to scenarios of sea level rise due to climate change?
- Indicates that the majority of the neighborhood would prefer to continue living there, in opposition to the Municipality's perception,
- Claims a seat at the table, where representatives of residents can participate in decisions regarding their future.

The answer from the Mayor Inês de Medeiros does not recognize the reasoning of the speech act and does not comment on what the local decision maker proposes. In her response she says: “It’s one thing to realize that people have affection for the neighborhood where they live. Now you are telling me that those are conditions to live in...” The President emphasizes “the risks of living there by the sea and also, in some cases, the insalubrious conditions that aren’t admissible”. She also associates the place with “security issues” due to the lack of electricity. This problem persists to this day, since the physical installation of structures was completed, but neither the State's public company nor the City Council wanted to move forward with community-based solutions for the 2.º Torrão neighborhood.

November 9th, 2019

The Municipal Water and Sanitation Management produces a report for the City Hall of Almada in which it indicates the need for cleaning and maintenance interventions in an underground ditch that crosses 2.º Torrão for the drainage of rainwater. This report is only available to inhabitants years after, with a court case (more in 'Appendix').

November 16th, 2019

Installation of pressure and sediment movement' sensors in the bottom of the Tagus Estuary. This enterprise is done by the collaboration between researchers and a local fisherman, Toni Graça, that supported the team in installing the sensors to retrieve information about the coming storm.

November 23rd, 2019

Recovery of pressure and sediment transport' sensors in the Tagus Estuary.

January 25th, 2020

Researcher José Carlos Ferreira, associate professor at the Faculty of Science and Technology of the NOVA University of Lisbon, goes to the neighborhood of 2.º Torrão for an interview with the newspaper Diário de Notícias. There he warns about human occupation of the coast by "transgressors" that build illegally and the need for land use policies that deal with climate change (Gonçalves 2020).

June 30th, 2020

The Municipal Water and Sanitation Management produces a report for the City Hall of Almada that exposes the existence of "very substantial risks for the environment and for

public health of the population of the neighborhood of Segundo Torrão, as well as upstream from the ditch [that crosses the neighborhood underground]”. This report concludes that it’s urgent the repair of this ditch. It is only available to inhabitants years after, with a court case (access to related data in ‘Appendix’).

October 10th, 2020

The lead researcher Xavier Bertin meets with the local stakeholder Paulo Faísca, the art mediator Nkaka Sessa Kperrom and the mediators João cão and Sara Sofia. The meeting is held online between the research laboratory in La Rochelle and a traditional association in Trafaria. Results are discussed, as Xavier’s team as found evidence that a specific kind of waves named infragravitic waves might have a role in flooding events in the neighborhood. As the environmental conditions for these waves to be formed could be predicted within a time period of two days, it is for the first time entertained the idea of creating an early warning system, that could help inhabitants to face the possibility of flooding events (Canto do Curió 2021).

October 16th, 2020

The Almada’s council Teodolinda Silveira, with the responsibility for housing, gives an interview to the local newspaper Almadense. There she announces the resettlement of 2.º Torrão’s inhabitants in new buildings to be built in several properties lands that are owned by the city and says that “we would like to start the resettlement next year” (Silveira in Morais 2020).

November 21st, 2020

Local distribution of a fanzine disseminating New stakeholders – Sciences achievements and

plans and local initiatives for youngsters and children supported by the project.

Summer of 2021

The New Stakeholders – sciences mediation team is renewed with the inclusion of Renata Camargo, community reporter. With her direction, a short documental movie is produced during the Summer of 2021, 'Vidas das Margens' ('Lives from the Margins'), that explores the relationship of female inhabitants of Trafaria with storms, the Sea and coastal flooding events.

August 8th, 2021

Two suicides by hanging of young adults in 2.º Torrão. Evidences lead to believe that the simultaneousness of the events was a coincidence.

August 9th, 2021

In a private meeting in the headquarters of the Inhabitants association of 2.º Torrão is communicated that some of the inhabitants, the ones living over the underground ditch, have been contacted by city workers that told them that their houses would be destroyed within a month. In opposition, the leader of the civil local authority (Junta de Freguesia) Sandra Chaíça communicated that the City Hall President had the intention of re-qualifying and urbanizing the neighborhood.

October 2021

Scientific publication on the morphological dynamics on the tidal inlet in the Tagus Estuary is published, which involved researchers involved in the New Stakeholders – sciences project (Fortunato et. al. 2021).

May 6th, 2022

In April of this same year, the Municipal Civil Protection Service of Almada carried out a technical inspection of the underground rainwater drainage ditch that runs through the neighborhood of 2.º Torrão. Part of the structure located upstream from the channel gave in, causing concern. The seven-page SMPC 46 internal report that was made following this visit warns of the need for immediate unblocking and cleaning of the channel and elaborates on the integrity of this cubic structure measuring four square meters in section. As a neighborhood resistance engineer later verifies, despite the report being signed by two civil engineers, the density and resistance of the reinforced concrete covering remains unknown. Strangely, the report still devotes more than a third of its pages to sea level rise due to climate change with data of vulnerability until 2100. The risk of flooding due to structure collapse has no supporting study. The data presented doesn't correspond to a risk assessment of flooding by submersion due to sea level rise. No local studies of any science are cited or included. The report recommends, however, the demolition of the houses that were built over the ditch before the start of the next hydrological year (October first). This report remained hidden from the public eye and was only accessible from a court case.

June 5th, 2022

The community event 'Viver entre a Terra e o Mar' ('Living between the Land and the Sea') took place in Academia Almadense, an historical site in the city of Almada. During it there is the presentation of the documentary film 'Vidas das Margens' ('Lives from the Margins', 2022 Camargo, 39 minutes) and a public discussion over New Stakeholders – Sciences is held (Canto do Curió 2022b).

Xavier Bertin presents the results of the funded research on coastal flooding during storms that had been commissioned by a group of residents of the 2.º Torrão neighborhood. Andreia Aires presents the Municipal Civil Protection' Emergency Plan. Teresa Pestana, social worker representing the City Hall, makes a reference to the resettlement of residents who live above the underground ditch that crosses through the neighborhood. During a public discussion, the representative of the residents' association Maio Agostinho asked: "When will the resettlement of residents who live above the ditch be expected?" Teresa, as a representative

of the city, says she cannot comment on plans for the future. There is no answer. Another resident, Suzi, takes the microphone in the public session. Being in a wheelchair and living in front of the sea, she accuses that, during risk situations, “you [Almada’s civil protection] are not always present” (ibidem.). There is a void in the responses and commitment of the city representatives. The representatives of the local Council (Junta de Freguesia) are absent, as is the president of the neighborhood residents' association. The partner of the president of the local council had a birthday that day and the local president of the inhabitants' association Faísca had been hired by the couple to serve a meal at their home and meet the needs of those who went to the party. The absence of these key actors is compounded by the lack of clarification and commitment from those sent to represent the city and the State.

June 7th, 2022

Almada City Council holds a meeting, at the junior high School of Trafaria, next to 2.º Torrão, where part of the families who lived in the area over the rainwater drainage ditch were called and attended. There, for the first time, the Mayor of Almada talks about the risk of collapse of the underground ditch, the intention to demolish the houses built over it and an emergency resettlement program. Requests for clarification are denied because they involve “particular” cases and each family’s situations are referred to private consultations to be scheduled, case by case.

June to September, 2022

Residents of 2.º Torrão who live in the area over the ditch began to try to get more information about the future of their homes. While some families were constantly trying to contact the City Hall for more information, others had not even been notified of the situation.

July 2022

Scientific publication over the Wave-current interactions at the Tagus Estuary Mouth under storm conditions makes evident the importance of the refraction of waves can take a significative role in flooding events in 2.º Torrão (Mengual et. al. 2022). This publication was led by the post-doctoral student Baptiste Mengual of the New Stakeholders – Sciences and was possible due to observational data of inhabitants.

August 5th, 2022

The Municipal Civil Protection Service of Almada produces an addendum to the SMPC 46 report, in which it advocated the demolition of the houses built over the underground ditch that crosses underground the neighborhood. This addendum updates the identification of the dwellings to be demolished, including other houses that should also be eliminated because they are structurally dependent on those already identified to be demolished . Access to this addendum was only accessible from a court case.

September 22nd, 2022

The underground ditch that crosses the neighborhood of 2.º Torrão had been cleared in early September and, on the morning of this day, the team from the Municipal Civil Protection Service returned to the site to assess the situation. The team finds some stones inside the terminal part of the channel that flows into the Estuary, that had been carried away inside by the tides. In the report there is an elaboration by observation on the possibility of a part of a pedestrian bridge located upstream contributing to new obstructions and how vegetation may eventually contribute in the future to clog the channel. This second addendum to the SMPC 46 report is the only technical evaluation signed by the Civil Protection coordinator of Almada, António Godinho and reiterates the need to demolish the houses built in this area. This addendum was only accessible to inhabitants and the public from a court case (report can be accessed in 'Appendix').

September 26th, 2022

The Municipal Emergency Plan of the Civil Protection of Almada is activated through a decree approved unanimously in a City Hall meeting. This exceptional plan was activated following the Alert Situation declared for the 2.º Torrão neighborhood from the reports of the Municipal Water and Sanitation Service and the Municipal Service of Civil Protection mentioned above. This alert situation is foreseen by the National Authority for Civil Protection as a situation that requires the adoption of preventive measures to avoid a catastrophe. None of these reports were made public, their access was only later obtained from the courtroom.

September 29th, 2022

The demolition machines enter 2.º Torrão under a contract with the city and begin the demolition. Simultaneously, the map and schedule of planned demolitions is presented to some media agents called for a closed meeting.

A resident had the door demolished by mistake, with all of her belongings inside. When she arrived home, she came across the demolished door and a room full of rubble. The family was temporarily relocated to a hostel in Campo de Ourique and stayed there until mid-December.

September 30th, 2022

The demolition map becomes public, with demolitions scheduled to take place between October 1st. and the 6th. The neighborhood residents' association, which maintains an independent survey of residents, is absent from the process. At the local level, the number of people affected is unknown, and later it was estimated at 66 families. The data from the City Council speaks of about 90 houses.

"Without a key, I won't leave" was the slogan that helped the residents to organize the resistance, with attempts to demobilize by the part of some agents who warned residents not to gather in public space. A group of support to the residents was formed spontaneously in defense of the houses.

October 1st, 2022

In the morning of this day, excavators, different teams from the Almada City Hall, from the Social Security, the local municipality (Junta de Freguesia), journalists, activists, local politicians and a North American musician and his team coming to record a videoclip arrive to 2.º Torrão. It is soon known that the lawyer Vasco Barata has submitted an application for emergency injunction against the City Hall with a group of residents. The vast majority of families have a first contact about the demolition timetable and do not know what their fate will be. Uncertainty and anguish are visible. Most of them are absent from work. The inspection team, responsible for transporting people's goods, was the first to arrive. Before even telling

where the families would go, their belongings were already taken from home.

Throughout the day, demolitions begin with temporary relocations. A group of neighbors, which were denied their right to relocate, are gathered and show their intention to resist. Jelson Oliveira blimblim, who had returned to live in the neighborhood and his family are displaced without alternative housing. Sebastião Tomás Mutuanguelo, in a state of mental confusion, is evicted and his belongings are taken by the city hall. He is welcomed by a neighbor, Cândida Rodrigues, who had been tricked by a Social Security technician to host Sebastião during the weekend, not knowing that he was negated a due process and would come to be considered an illegal occupier by the City.

October 2nd, 2022

Court's response to the collective emergency injunction of lawyer Vasco Barata in the Administrative Court of Almada denies the suspension of the demolitions in this case.

October 3rd, 2022

Lawyer Marina Caboclo enters with another collective emergency Injunction against the City, to restrain the demolition of houses without its inhabitants having where to live.

October 4th, 2022

Two other emergency injunctions are filed by Marina Caboclo in the Administrative Court of Almada.

A petition is launched online and in paper, with a series of complaints and demands from the residents.

October 5th, 2022

Collective injunction filed by Marina Caboclo in the Almada court is accepted and demolitions of the targeted houses are prevented while the court case is ongoing.

October 6th, 2022

Two other emergency injunctions presented by the lawyer Marina Caboclo are accepted and the demolition of the houses in question prevented.

Demolitions are over, according to the timetable previously set by the city at the end of September. Ten houses remain standing, with the residents resisting and residing in them, living among the rubble, a situation that will last for several months. All 12 families who entered with court orders had been totally excluded from resettlement programs.

October 13th, 2022

Protest at the Garden of Cova da Piedade, in Almada to demand that all people affected by the demolitions in 2.º Torrão process have guaranteed access to dignified housing. Residents also demanded more transparency in the process.

October 15th, 2022

Interruption of the vernissage of the photography exhibition "Living Among What's Left Behind" promoted by the Almada City Hall. Activists raise posters with photos of the wreckage in 2.º Torrão neighborhood and distribute leaflets.

October 19th, 2022

Residents in resistance and representatives of the *Canto do Curió* Cultural Association participate in Almada's Town Hall.

October 23rd, 2022

After political, judicial and media pressure, the City Hall of Almada sends letters to residents in resistance requesting the submission of new documents to evaluate their conditions for inclusion in the 'Porta de Entrada' resettlement program.

November 5th, 2022

A group of residents who filed the first emergency injunction had a meeting with the state

secretary of Housing, Marina Gonçalves. There, also took part in the meeting some residents who resisted eviction in their homes in the neighborhood, other residents who were still in temporary accommodation and the lawyer Vasco Barata.

November 17th, 2022

A group of residents in resistance meets with the Secretary of State for Housing Marina Gonçalves together with their lawyer Marina Caboclo. The meeting was aimed at clarifying and exposing unanswered housing situations.

November 23rd, 2022

Mrs. Helena Carvalho, one of the central figures of the resistance movement of 2.º Torrão, is notified that her application process to the National Programme '*Porta de Entrada*' has been declined. She is not recognized as inhabiting the neighborhood.

November 29th, 2022

Residents in resistance participate in the Assembly of the local municipality, the *Junta da União de Freguesias de Caparica and Trafaria*.

December 5th, 2022

Protest in the center of Almada, on Avenida D. Nuno Álvares. It is demanded a decent resettlement for all the residents who were affected by the demolition plan mandated bby the city.

Residents in resistance participate at the end of the ordinary meeting of the Almada City Council that same night, after four hours of waiting for the space of public intervention. In this meeting the residents intervene: Virginia Francisco, Caramó Cassamá and Job Rocha, as well as myself, as mediator and my colleague Renata Camargo (video of the session in: Câmara Municipal de Almada 2022). The residents expose their apprehensions and no answers are obtained. The intervention of João Duarte makes a parallel between the myth that the Marquis of Pombal would have ordered to burn a community of indigent in the

territory of Trafaria - Caparica and the present intervention, by which houses are destroyed without a plan of resettlement that would respect the safeguarding of human lives. João refers to this positioning as a manifestation of a "colonial city". The following intervention, by Renata Camargo, accuses the city council of imposing the relocation of many people for more than 60 days in a crowded hostel without proper living conditions in Campo de Ourique, in Lisbon. In portraying the power of those who are far from the places they hold power over and impose an idealized vision of better living conditions, she uses the expression "colonial Almada" and is interrupted by the Mayor who presides at the session. Mayor Inês de Medeiros demands that Renata removes the expression "colonial Almada". She is annoyed, forbids her from taking the microphone and adds that "for my part, I got rid of the colonialist heritage of Portugal a long time ago". At the end of the day, Inês de Medeiros still uses her platform on the social network Facebook to personally attack Renata Camargo and elaborate on her own biography as a film director. In the following days, the episode viralizes on social media and Renata Camargo, a Brazilian, becomes the target of xenophobic and racist online persecutions.

December 14th, 2022

Residents in resistance and representatives of the Canto do Curió Cultural Association take part in the Municipal Assembly of Almada.

January 13th, 2023

Residents in resistance and representatives of the Canto do Curió Cultural Association take part in the Municipal Assembly of Almada.

January 27th, 2023

An online campaign of solidarity to 2.º Torrão's struggling residents starts.

February 10th, 2023

On this day, Mrs. Helena Carvalho, part of the resistance movement of 2.º Torrão, who had been deprived of her belongings since October 2022, would collect them with the support of volunteers from a warehouse rented by the Almada City Hall. During this process, she is summoned by the service coordinator, Mr. Licínio Monteiro, who announced that the City's

services would not support any other house move.

February 16th, 2023

With their lives interrupted and losing sources of income, inhabitants that resist in the neighborhood did this day their last formal request of food aid. Like the previous requests, there is no availability to support the resistance.

February 25th, 2023

Residents of 2.º Torrão in resistance participate in the protest 'Vida Justa' taking place in the center of Lisbon, demanding access to decent housing conditions.

March 8th, 2023

Inauguration of the exhibition 'Emancipation of the Living' in the Municipal Galleries of Almada, which includes the installation 'Pro-Sedimento' related to the struggle for housing of inhabitants of 2.º Torrão. Included is the work of four photographers who followed the struggle of the neighborhood: Francisco Melim, Sofia Quintas, Bruno Miguel and Bernardo Seixas. Production of FRAME Collective and curation of Museum for the Displaced.

March 7th, 2023

The Committee of the Assembly of Caparica and Trafaria local municipality (Junta de Freguesia) created to monitor the Resettlement (and Eviction) process of residents of 2.º Torrão meets finally with residents in struggle. This commission would then present a report to be discussed at the meeting at their next Assembly. Members of the Commission report that their work was blocked by the Almada City Council, which for more than 160 days did not respond to the requests issued by this body.

March 20th, 2023

Demolition of the house of one of the resistance organizers in 2.º Torrão neighborhood, Mr. Caramó Cassamá, who was relocated on the same day. The intervention, however, causes damage to the house of the neighboring family, who continues to resist for their right to housing.

March 29th, 2023

The project New Stakeholders - sciences is presented and discussed among others at the final meeting of the NEWSERA platform in Brussels. The mediators João cã and Renata Camargo had participated in this process of networking to optimize the involvement of professional politicians in the science communication of this co—created project.

April 1st, 2023

Residents in resistance participate in the protest *Casa para Viver*, in the center of Lisbon, demanding access to decent housing conditions.

May 18th, 2023

In a private meeting, the Almada City Council has granted the relocation of the three families from 2.º Torrão who still resisted inside their homes among the rubble of the demolition zone of the neighborhood. The agreement was presented in writing and in the presence of the families' lawyers, Marina Caboclo and Vasco Barata. In the face of some miscommunication, Ms. Helena Carvalho was contacted the same day and told that she would either be at the City Hall within an hour and a half, or lose the right to a house where to live. Her lawyer was able to quickly get to her and take her to the meeting place.

Of the 15 families who in October 2022 decided to fight for their right to housing, all of them are now considered eligible for temporary relocation up to 30 months. Mr. Sebastião Tomás Mutuanguelo, who also was part of the resistance assembly of the neighborhood, was considered as suitable for municipal housing but still awaits a response.

May 20th, 2023

The last three families of the resistance who persist in living among the rubble of their demolitions of their neighborhood visit the houses where they are proposed to be relocated. Mrs Helena Carvalho, who has reduced mobility and lives with her daughter Zeolândia Carvalho, is offered a house with one room on a second floor. Without alternative housing and according to the legal advice that she had access, Helena accepts the conditions

imposed.

May 22nd, 2023

In a public meeting of the Almada City Council, the elected deputies again discuss the emergency relocation of 2.º Torrão. The mayor believes that inhabitants were induced to fight in court by certain agents who made them misleading promises. She considers that residents in struggle have seen their access to housing delayed by having fought through the courts. The councilman responsible for housing in Almada, Filipe Pacheco still justifies the delay in the processes and the way of acting of the technicians of the City's Department of Housing, by the considerable amount of work they had had to fulfill because of these people who were relocated. "We are talking about many illiterate people, or who do not understand Portuguese" (Pacheco in Câmara Municipal de Almada 2023).

May 25th, 2023

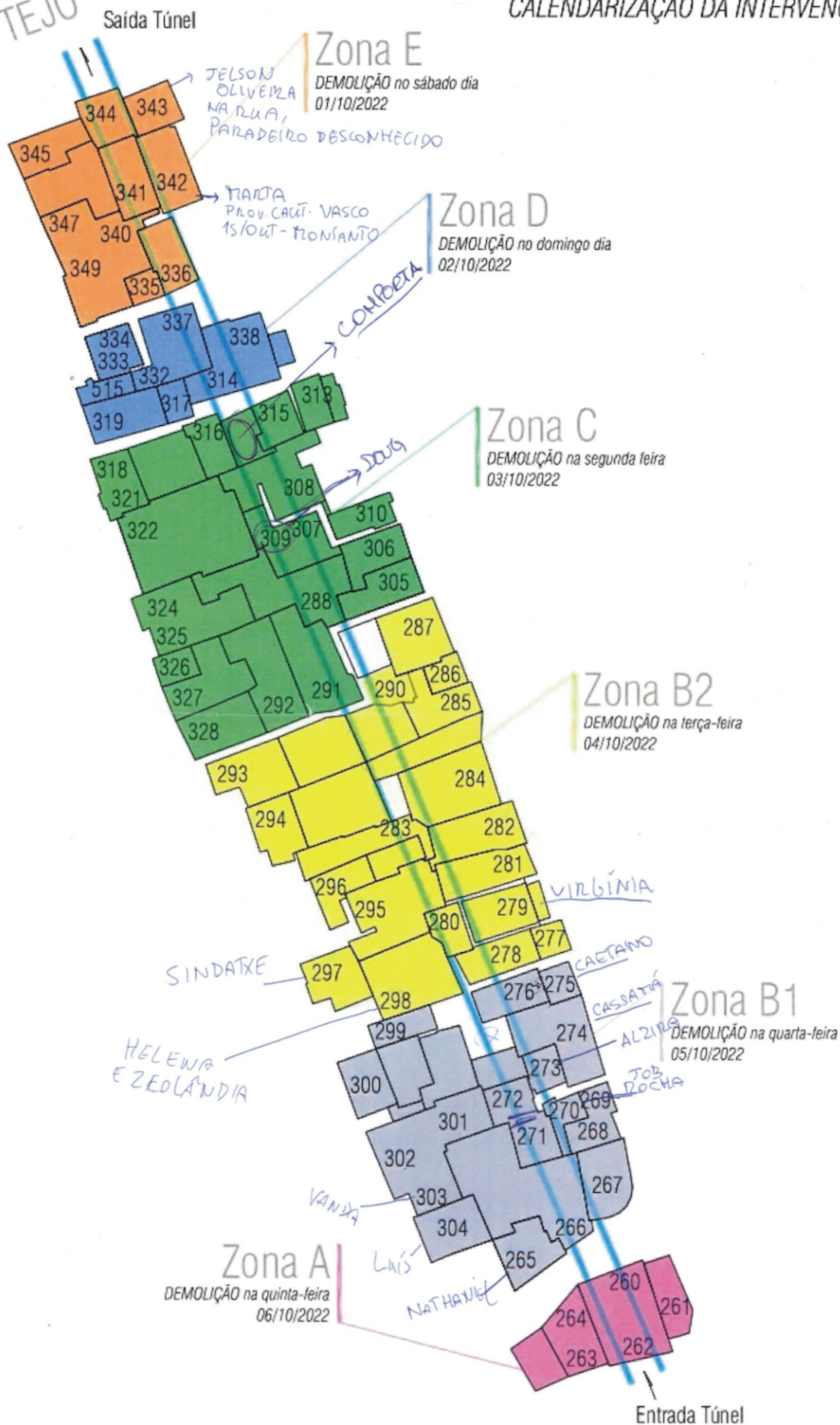
Last houses of the assembly of the resistance of the neighborhood of 2.º Torrão are destroyed and families relocated. Mrs. Helena Carvalho is left behind at the moment of the relocation, while her goods are rushed away. We managed, among the city workers present in the neighborhood, to arrange a ride to her new home.

ANNEX 3

DEMOLITION MAP FOR 2.º TORRÃO (OCTOBER 2022)
AND TECHNICAL REPORT FOR THE INTERVENTION (IN
PORTUGUESE)

RIO TEJO

CALENDARIZAÇÃO DA INTERVENÇÃO



AVALIAÇÃO DE RISCO

Proc. N. SMPC/46/2022

Assunto: Avaliação de Risco – Vala de drenagem de águas pluviais – 2º Torrão - Trafaria

1. Dados do Requerente

Nome Câmara Municipal de Almada	
Morada 2º Torrão - Trafaria	
Telefone	E-mail

2. Dados do local reclamado

Morada do local 2º Torrão - Trafaria	
Proprietário	Nome Município de Almada
	Morada
	E-mail
	Telefone

3. Localização



Figura 1| Localização

4. RELATÓRIO

4.1. ENQUADRAMENTO

Na sequência do relatório produzido pelos SMAS Almada, relativo ao troço coberto da Vala de Drenagem de águas pluviais, localizado no bairro do 2.º Torrão da Trafaria, realizou-se visita técnica com os elementos do SMPC (Nuno Casola, Marco Morais e André Marquês) e da DPO (José Félix), no dia 29/04/2022 pelas 15:00, com o objetivo de avaliar quais as construções localizadas sobre a área de influência desta vala e que estão em risco de ruir em caso de colapso da sua cobertura, podendo vitimar os seus habitantes.

4.2. ANÁLISE DE RISCO ESTRUTURAL (EDIFICADO E VALA)

A cobertura em betão armado desta da vala encontra-se bastante degradada devido ao ambiente agressivo onde se localiza, à sua antiguidade e à profusão de orifícios que foram indevidamente realizados para drenagem de águas residuais das habitações, o que a fragiliza ainda mais. O troço final da cobertura da Vala de Drenagem já ruiu devido à agitação marítima, o que compromete a sua eficácia para escoar as águas pluviais. Assim, constata-se um risco grave de colapso de troços adicionais da cobertura quer devido a eventuais cheias, quer devido ao peso próprio das construções que foram edificadas nesta (em alguns casos com dois pisos). Nessa vistoria, verificou-se que as construções localizadas entre os dois “arruamentos” que ladeiam a Vala de Drenagem, estão em risco pois não possuem estrutura independente e fiável e são solidárias entre si, ou seja, caso se demolisse apenas as construções diretamente edificadas sobre a vala, as restantes ficariam afetadas na sua estabilidade que já é muito precária.

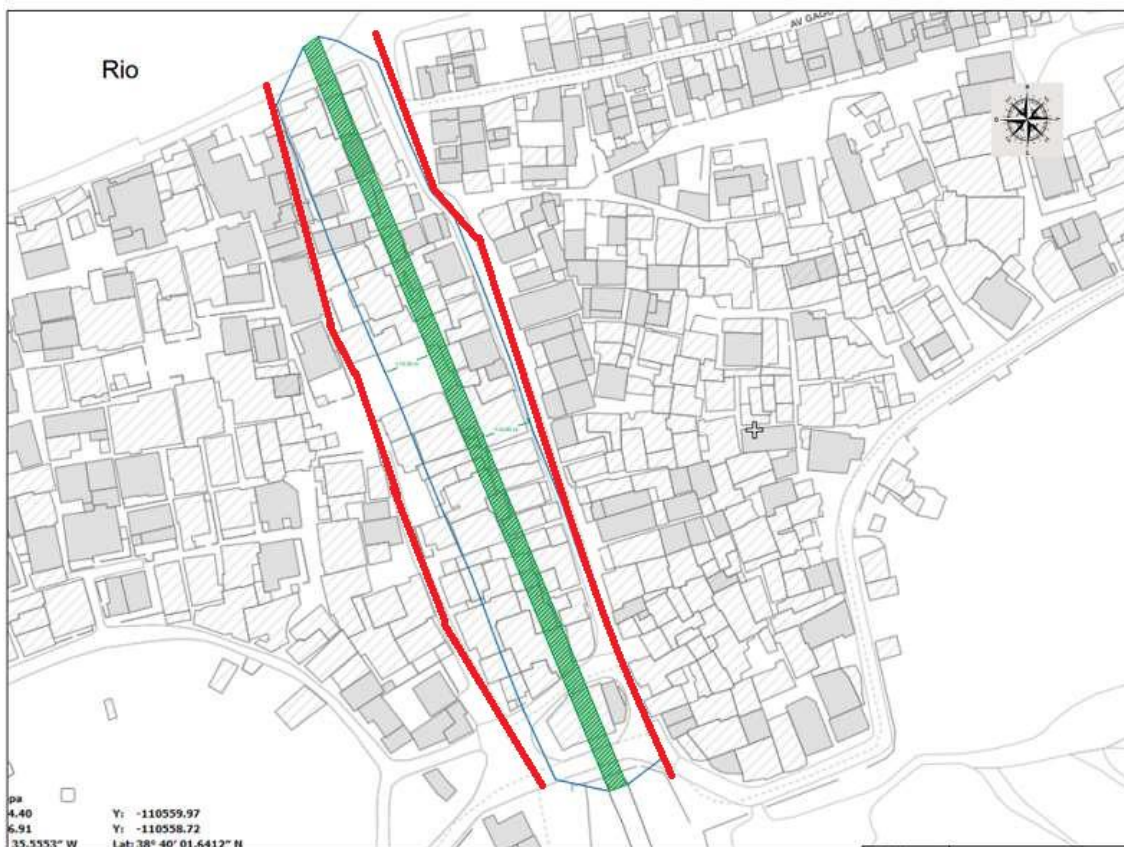


Figura 2 | Planta do bairro onde se assinala a vermelho os limites para demolição de construções que estão na área de influência da Vala de Drenagem.

Paralelamente, a circulação dos meios mecânicos pesados necessários à demolição das construções e remoção de escombros, poderá aumentar a degradação e provocar a ruína das restantes construções devido à vibração do solo e eventual colapso parcial da cobertura da vala pela ação do seu peso.



Figura 3 | Exemplos de construções existentes



Figura 4 | Exemplos de construções existentes

4.3. ANÁLISE DE RISCOS HIDROLÓGICOS E RISCOS COSTEIROS

A área de intervenção coincide com o local de descarga do troço da Vala drenante da bacia pluvial da Costa da Caparica com o Rio Tejo, nestas condições e no âmbito dos recursos hídricos, a Lei n.º 54/2005 de 15 de novembro estabelece a titularidade dos recursos hídricos e define a pertença dos recursos hídricos nacionais, incluindo as águas, os respetivos leitos e margens, zonas adjacentes, zonas de infiltração máxima e zonas protegidas. Classifica também os recursos hídricos em função da titularidade, como recursos dominiais ou pertencentes ao domínio público, e como recursos patrimoniais, pertencentes a entidades públicas ou privadas.

Perante este normativo jurídico, o curso de água existente encontra-se na confluência de dois domínios públicos hídricos, o domínio público marítimo e o domínio público das restantes águas. No primeiro caso, estamos perante águas interiores sujeitas a influência das marés, nos rios, lagos e lagoas, assim como os respetivos leitos e margens conexas numa largura de 50m estão sujeitas às servidões estabelecidas por Lei.

No segundo caso, os cursos de água não navegáveis nem fluviáveis nascidos em prédios privados, logo que transponham abandonados os limites dos terrenos ou prédios onde nasceram ou para onde foram conduzidos pelo seu dono, se no final forem lançar-se no mar ou em outras águas públicas, sendo que nestas condições o respetivo leito e margens conexas numa largura de 10 metros estão sujeitas às servidões estabelecidas por Lei.

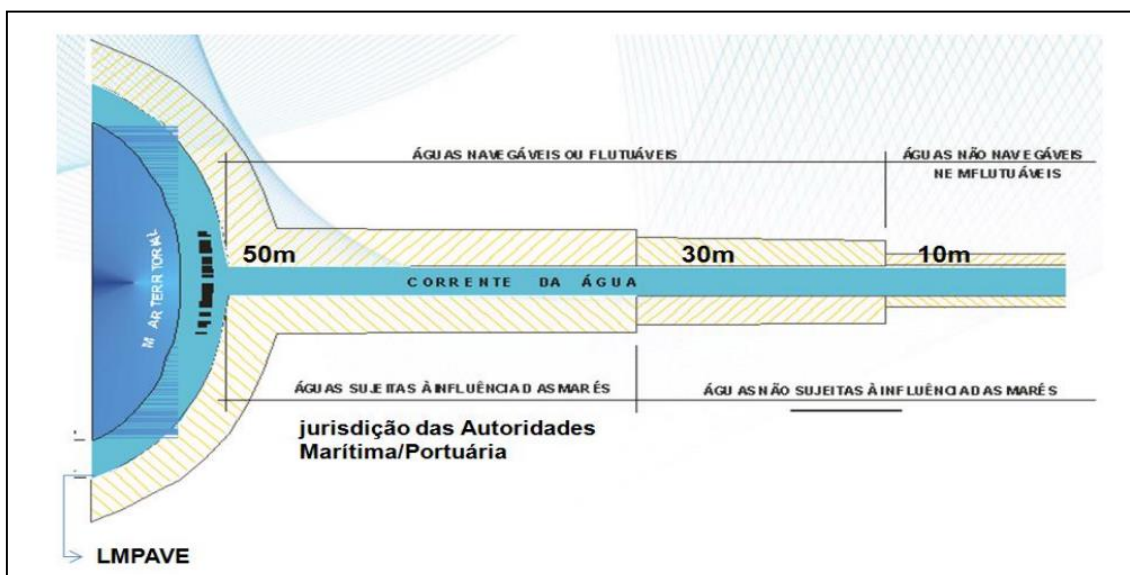


Figura 5 | Esquema representativo das larguras da margem. Guia de apoio sobre a titularidade dos recursos hídricos. (Fonte: APA, 2014)

O bairro do 2º Torrão do ponto de vista de fenómenos relacionados com a hidrografia e áreas costeiras localiza-se numa área crítica, suscetível a inundação estuarina, galgamento e erosão do litoral em áreas baixas e arenosas.

Para além do risco estrutural, associado ao túnel de descarga e da obstrução do troço terminal por ação da erosão costeira, verifica-se neste local a influência direta do efeito da maré no escoamento da Vala, que pode ser agravado por condições meteorológicas adversas, como sejam, episódios de precipitação intensa, tempestades de vento e a sobrelevação da maré por efeitos meteorológicos, e que numa situação multi-risco combina os fenómenos atrás citados com dias de preia-mar de águas vivas equinociais (março e setembro), configurando assim o pior cenário possível para o Bairro e zonas envolventes.

Do ponto de vista da bacia de drenagem pluvial da Costa e respetiva rede de drenagem, a incapacidade drenante da respetiva seção terminal através do túnel de descarga assume importância crucial e determinante, implicando naturalmente com outros locais da rede, podendo desencadear inundações ou cheias rápidas a montante.

Por outro lado, o fenómeno da subida do Nível Médio do Mar (NMM) é “silencioso” e lento, contudo está em curso e numa tendência de subida desde os anos 20 do século passado.

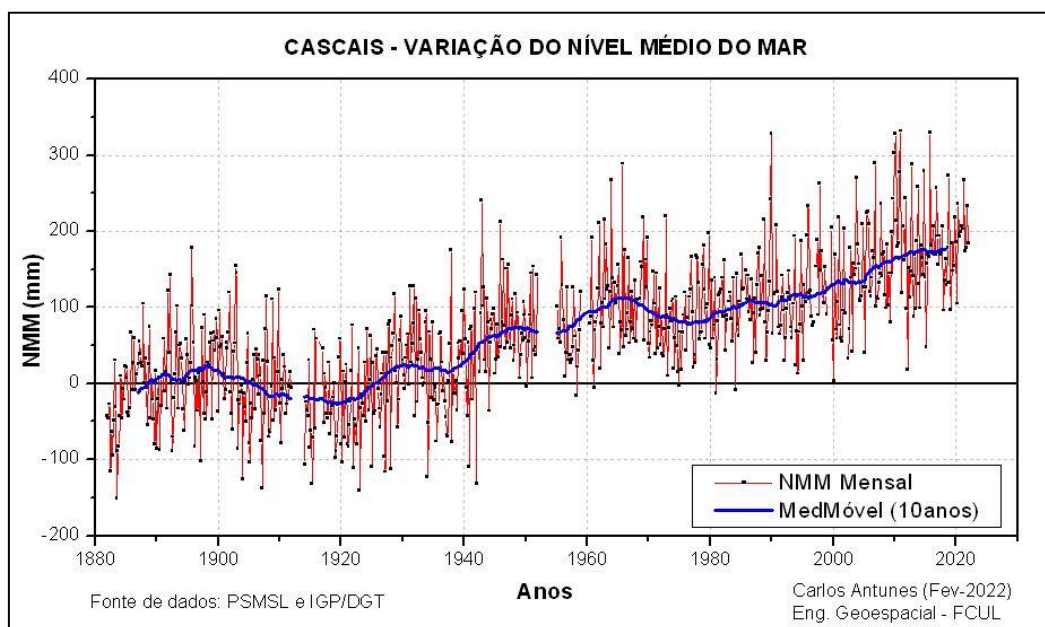


Figura 6 | Variação do nível médio do mar. (Fonte: <https://webpages.ciencias.ulisboa.pt/>, Antunes C., 2022)

Perspetivando o futuro com base nos estudos científicos¹ do presente, estima-se para Portugal no cenário mais provável uma subida do NMM de 44² centímetros em 2050 e de 1.15² metros até 2100, subida esta que com alguma incerteza pode ocorrer antes ou depois, mas que também pode ser mais acentuada se considerarmos o cenário extremo de subida do NMM de 2.6² metros até 2100. Neste enquadramento, referir que o Bairro do 2º Torrão está localizado num litoral de costa baixa e arenosa com uma altitude média de apenas 4.3 metros (Modelo Digital do Terreno, 2011) comprometendo a ocupação humana deste local num futuro próximo.

¹ O estudo consultado aplica uma metodologia que considera cenários de subida do NMM com sobreposição dos efeitos da variação de maré, de sobrelevação meteorológica e *setup* de vento. (Fonte: conteúdos e valores consultados on-line no sítio de internet <http://www.snmportugal.pt/> em 02/05/2022).

² Relativamente ao Datum Vertical de Cascais1938.

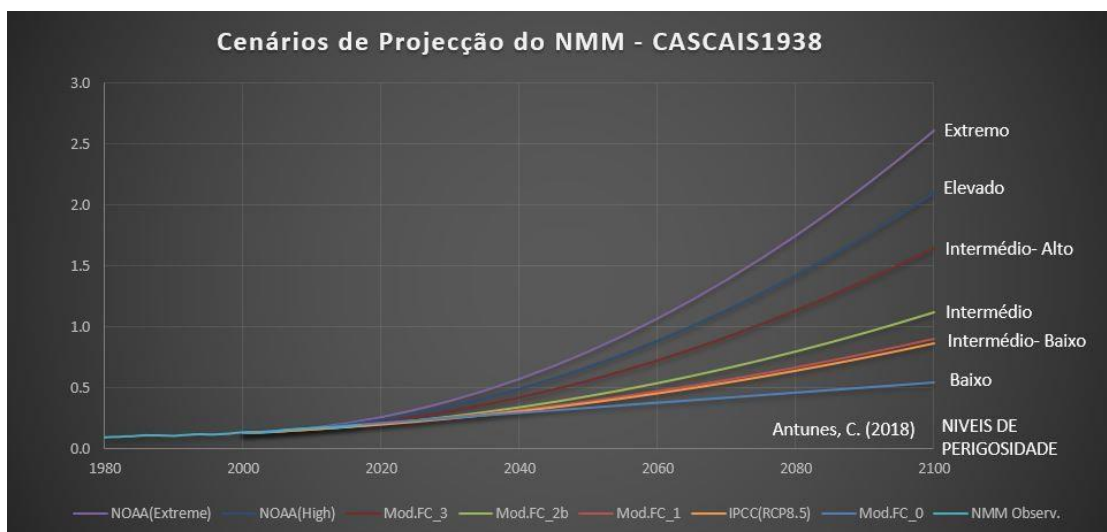


Figura 7 | Cenários de Projecção do NMM. (Fonte: [Cartografia de Inundação e Vulnerabilidade Costeira](#), FCUL, 2022)

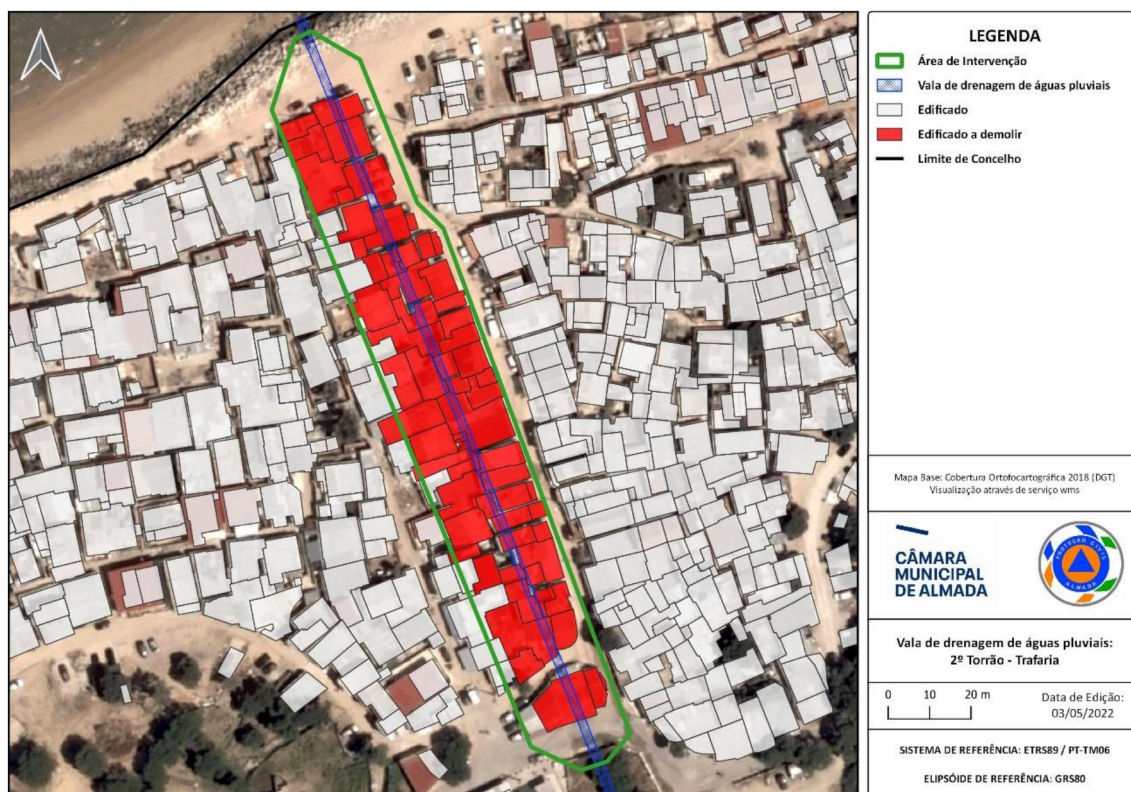
Nestas circunstâncias, a subida do NMM vai tornar as inundações estuarinas e os galgamentos costeiros mais frequentes e mais severos, alagando áreas terrestres habitualmente secas, em suma, uma maior capacidade erosiva dos agentes marítimos.

A análise custo benefício deve ser equacionada, na perspetiva de que para manter população e bens em locais vulneráveis à erosão costeira ficam os organismos públicos obrigados a realizar investimentos dispendiosos em estruturas de defesa costeira.

4.4. PROPOSTA

Face ao exposto, para evitar o agravamento desta situação propõe-se o seguinte:

1. Desobstrução e limpeza imediata da Vala de Drenagem.
2. Realojamento dos habitantes das construções localizadas sobre o túnel de descarga da vala, para que se possa proceder à demolição das edificações assinaladas (figura XX), no máximo, até ao início do próximo ano hidrológico, dando cumprimento aos limites legais preconizados na Lei n.º 54/2005 de 15 de novembro.



À consideração superior.

Os Técnicos

Nuno Casola,
Téc. Superior

José Félix,
Téc. Superior

Marco Morais
Téc. Superior

André Marquês,
Téc. Superior

