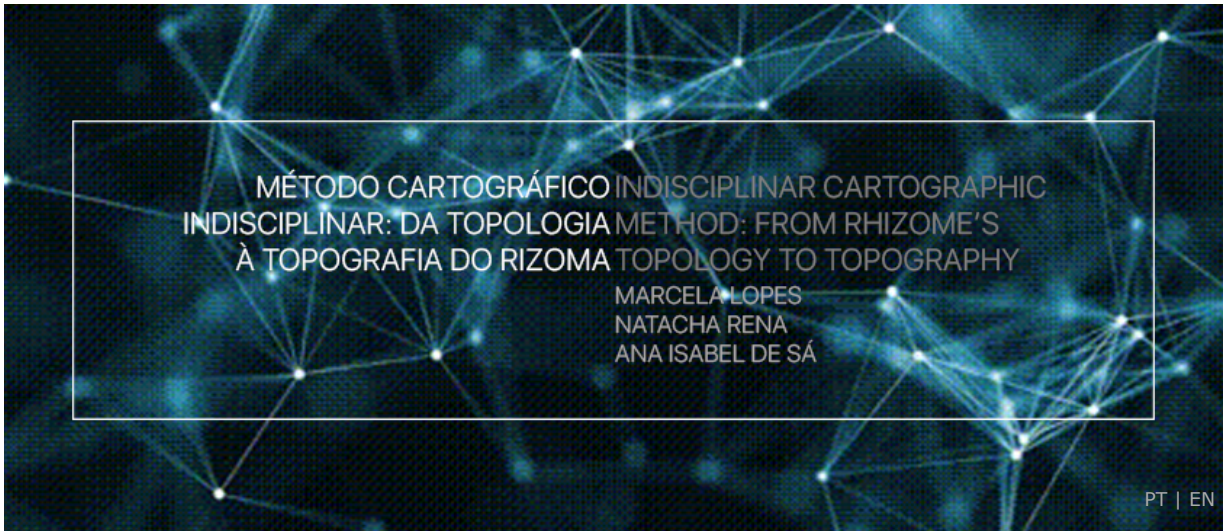


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MÉTODO CARTOGRÁFICO INDISCIPLINAR CARTOGRAPHIC
INDISCIPLINAR: DA TOPOLOGIA METHOD: FROM RHIZOME'S
À TOPOGRAFIA DO RIZOMA TOPOLOGY TO TOPOGRAPHY

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PT | EN

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Abstract:

In this article, we will relate to the theme *Construction of Information* from three topics, focusing on the recent production of Indisciplinary's Research Group, from the Federal University of Minas Gerais, about ongoing disputes in various territories of Belo Horizonte – the capital of Minas Gerais state in southeast Brazil. For this, we developed the proposal of an own work method that would make it

possible to construct information by articulating the needs and the temporalities of the struggles, with the demands of scientific/academic production, always in a collective and networked way. In the first topic, "1. Field Epistemological Dispute", we discuss the concepts related to information, knowledge, as well as knowledge and episteme, trying to highlight the way these concepts are constructed and how power relations permeate this construction. To this end, we resort to the thinking of some French poststructuralist philosophers such as Michel Foucault, Gilles Deleuze, Felix Guattari, and Bruno Latour. In "2. Indisciplinary's Production: cartography and technopolitics", we will present some of the reflections made by the group since 2012, about the production of the contemporary city. These reflections allowed us to systematize guidelines for the cartographies performed, enumerate the main dimensions to be addressed and organize our repertoire of processes and work platforms. In the topic "3. Cartographic, genealogical and plateau method", we will discuss how the collective construction of information has been developed by Indisciplinary, in order to coherently approach the adopted theoretical assumptions and their methodological research guidelines, constituting an operative method for your investigations.

Keywords: Information, Cartography, Genealogy, Actor-network, Associations, Controversies

1 Introduction

In this article, we start from three topics to talk about the Construction of Information, focusing mainly on the recent production of UFMG's¹ Research Group Indisciplinary concerning urban disputes in various territories of Belo Horizonte – the capital of Minas Gerais state in southeast Brazil.

In the text's first topic, "Epistemological Dispute in the Field", we part from the discussion about the concepts related to information, knowledge, knowledge, and episteme, trying to highlight the way they are constructed and how power relations cross this construction. For this, we resort to the thought of some French poststructuralist philosophers such as Michel Foucault, Gilles Deleuze, Felix Guattari, and Bruno Latour.

In topic 2, "Indisciplinary's Production: cartographies and technopolitics", we present some of the reflections made by the research group, since 2012, which allowed us to systematize guidelines for the cartographies, list the main dimensions to be addressed, and organize our repertoire of processes and work platforms.

In topic 3, "Cartographic, genealogical and plateau method", we will discuss the guidelines for the collective construction of information pursued by the group. Since 2012, we have been producing what we identify as "counter narrative". These are incisively opposed to actions that seek to promote the exclusion of vulnerable population from certain territories in Belo Horizonte, aiming to give visibility and enhance the struggles of militant and activist social movements. However, after the political coup that occurred in Brazil in 2016, contradictions between the various social movements became more evident, which led us to map new controversies, considering that even the very concept of resistance is in dispute.

We believe that some procedures adopted in the processes of dispute and opposition to neoliberal policies have also produced negative effects on various scales, considering, at the national level, the various setbacks that followed the coup. Moreover, we realize that, although it is still necessary to highlight the perverse approximation between the State and the Capital, it would not be pertinent to conduce a tabula rasa with several of the actions promoted by the state, whose role as regulator and provider of public policies is still, in our opinion, of utmost importance for the promotion of equity and social justice in Brazil.

Thus, in order to feed uncertainties and map emerging controversies (Latour, 2005) in the production of urban space, Indisciplinary has engaged, after 2016, in the difficult task of coherently approaching the theoretical assumptions adopted, as well as their methodological research guidelines. The challenge during this period was to build a cartographic, genealogical, and plateau method that was also operative. It was necessary to burst some of our guiding concepts, eliminate binarisms, and invent new approaches to the field of extension, research and teaching practices, in order to achieve new ways of giving visibility to the information we collectively produce.

2 Epistemological dispute in the field

To reflect on the construction of information, we need to discuss how truth regimes work throughout history. In the case of the production of space, it's paramount to discern what are the mechanisms of visibility and legitimation of one fact or event to the detriment of others. If we agree with Michel Foucault, when he states that "truth isn't outside power, or lacking in power" (Foucault 1979, p. 12), we also agree that there is no neutral information, and that there is no fact that it is not important. For the philosopher, perhaps "One can agree that structuralism formed the most systematic effort to evacuate the concept of the event, not only from ethnology but from a whole series of other sciences and in the extreme case from history." (Foucault 1979, p. 12). Thus, the "The problem is at once to distinguish among events, to differentiate the networks and levels to which they belong, and to reconstitute the lines along which they are connected and engender one another" (Foucault 1979, p. 5). For Foucault, it is interesting to construct a history of the episteme, understood as:

the strategic apparatus which permits of separating out from among all the statements which are possible those that will be acceptable within, I won't say a scientific theory, but a field of scientificity, and, which it is possible to say are true or false. The episteme is the 'apparatus' which makes possible the separation, not of tile true from the false, but of what may from what may not be characterised as scientific. (Foucault 1979, p. 246).

Over time, Foucault will broaden and incorporate other devices into his studies, considering them "is a much more general case of the *episteme*; "understanding episteme as a discursive device, unlike the device "its general form is both discursive and non-discursive, its elements being much more heterogeneous" (Foucault 1979, p. 246). We understand that by the term "device" he attempts to outline a heterogeneous ensemble that encompasses discourses, institutions, architectural organizations, regulatory decisions, laws, administrative measures, scientific statements, and philosophical, moral, philanthropic propositions. For him, the things said and unsaid are the elements of the device, the device being the network that can be established between them. It also outlines the nature of the relationship that may exist between these heterogeneous elements, assuming a type of game, that is, change of positions and function modifications, equally different. The device can also be understood as a formation that, at a given historical moment, had as its main function to respond to an urgency: "The apparatus thus has a dominant strategic function" (Foucault 1979, p. 244).

By dialoguing with Foucault's thoughts, starting from the concept of device, Deleuze will find a concrete dimension in the author's study of panoptism – "an optical or luminous arrangement " – as well as an abstract dimension – "a machine that not only affects visible matter in general (...), but also in general passes through every articulable function" (Deleuze, 2006, p. 34). Foucault has named such an abstract dimension as "diagram," a concept that interests us as a way to think of a method within these theoretical assumptions.

The diagram or abstract machine is the map of relations between forces, a map of destiny, or intensity, which proceeds by primary non-localizable relations and at every moment passes through every point (...). What do we mean here by immanent cause? It is a cause which is realized, integrated and distinguished in its effect.(Deleuze, 2006, p. 36-37).

Following this logic, it is necessary to conduct a "genealogy of practices" for the study of diagrams, understanding genealogy as a knowledge insurrection, not so much against the contents, methods and concepts of science, but of an "insurrection of knowledges that are opposed primarily not to the contents, methods or concepts of a science, but to the effects of the centralizing powers which are linked to the institution and functioning of an organized scientific discourse within a society such as ours" (Foucault, 1979, p. 171). The genealogy would, therefore, be related to the project of an inscription of knowledge. in the hierarchy of powers proper to science, an undertaking to free historical knowledge from subjection, that is, "capable of opposition and of struggle against the coercion of a theoretical, unitary, formal and scientific discourse." (Foucault, 1979, p. 172).

"A diagram is a map, or rather several superimposed maps", Deleuze conceptualizes (Deleuze, 2006, p. 44). This approximation between the concepts of diagram and map favors the understanding that there is no diagram that does not support, beside the connecting points, "certain relatively free or unbound points, points of creativity, change and resistance" (Deleuze, 2006, p. 44). If the archive corresponds to the form, the diagram corresponds to the force, a becoming of forces that duplicates the history of forms. Forces are revealed in every relationship, from one point to another. And from one diagram to another, new maps are drawn.

In short, when constructing information, there are always interests and crossing-overs, which are seldom very visible. The challenge of an investigation is to map the force relations at stake, as well as to give visibility to

information and knowledge which is not always evident or stated.

3 Indisciplinary's production: cartography and technopolitics

The concept of cartography has always played a fundamental role in Indisciplinary's production, both from the theoretical-philosophical point of view proposed by Deleuze and Guattari (2005) – through the author's idea of rhizome –, and by its traditional meaning as territorial representation (map production). The concept of rhizome understands cartography “not only as a method of classical territorial geography, but as a daily micropolitical tactic composed of political action; an insurgent, dynamic, always procedural and creative making” (Rena et al, 2016, p. 15). Territorial maps, in turn, are one of the main graphic resources explored for the production and communication of information in the projects and actions of the group. Both meanings are constantly entangled and crossed in our cartographic production, guiding our way of acting and relating to the investigated themes: understanding ourselves not as external observers, but as other networked actors, thus affecting the mapped phenomena, as well as being affected by them.

Nowadays, the application of many cartographic tools seeks to expand the reach and to democratize access to information, subverting cartography's traditional role and implementing it in counter-hegemonic processes, with minority groups of society, or in peripheral territories. Renato Emerson dos Santos defines these practices as new social cartographies, participatory cartographies, action cartographies, counter-mappings, among others (Santos, 2011, p. 1). These are characterized by the valorization of aspects often made invisible by hegemonic spatial representation, by the use of collective production and participatory dynamics, and by the break with cartographic conventions, resulting in the invention of new ways of representing the territory:

The tensioning of the power relations they promote appears in three central spheres: in the cartographic production process, in which actors (social movements, public managers, cartographers, etc.) dispute the participation in elaborating cartographic representation instruments; in the cartographic object, which disputes what is mapped and how it is mapped; and in the use of cartography, which increasingly appears as an instrument of disadvantaged groups. (Santos, 2011, p.2).

The advancement of digital communication technologies, together with the new visualization and simulation tools for spatial information – GIS: Geographic Information Systems – has been contributing increasingly to spread such practices. Therefore, the distance between the average citizen and the production / visualization of territorial information is reduced by the daily use of platforms and applications such as Google Maps, Open Street Maps, Waze, Uber, among others. Popularization of Internet-connected mobile devices, such as smartphones and tablets, is another important factor in this process. Firstly, because they have lower costs in comparison to desktop computers, but mainly because of their mobility, enabling such technologies to be accessed and used in conjunction or as mediators of urban experience. (Sá, 2018, p. 406).

In this sense, the new cartographic dynamics mentioned can be seen as technopolitical practices or tools (Toret, @Dataanalysis15M, 2013, pp.1-2), understood as the association between networks and territories, aimed at political and social transformation:

the tactical and strategic use of technological devices (including social networks) for organization, communication and collective action. At the same time, we differentiate this concept—and the practices it tries to cover—from cyberactivism (Tascón and Quintana, 2012) and clicktivism. Technopolitics can connect to cyberactivism insofar as collective action is limited to the digital sphere; nevertheless, in a full sense, technopolitics points towards a series of collective practices that can take place or start on the Internet, but that do not stay there. (Toret, @Dataanalysis 15M, 2013, p. 2).

Such technological advances relate to the territory, however, in controversial ways, making room for new approaches to spatial representation, for an expansion of who maps what and how. On the one hand, there is in fact a greater infiltration of geographical representation tools in everyday life, which increases people's ability to interpret and read spatial visualizations, and gives support to collaborative exercises of territorial knowledge production. On the other hand, most of the heavily used platforms are proprietary in nature, increasingly concentrated in the hands of technology giants (Google, Facebook, Amazon, etc.). Avalanches of spatial data produced daily by their use stays centered on these few companies, generating robust and strategic territorial databases on the operation and use of urban spaces to which public authorities and city dwellers do not have access. Thus, the geopolitical role of cartographic production as an instrument of domination and exercise of power is rescued – generally made possible, paradoxically, by the same tools that propose to expand and democratize access to the production of geographic information.

The group's cartographic production finds itself precisely in this intricate dispute field. Aware of the existing contradictions, but also of cartography's power to give visibility to the phenomena and social groups investigated – both as a representation tool, and as collective imagination and territorial proposition –, we sought to structure a set of guidelines for the group's cartographic method. At this moment, the understanding of cartography as a philosophical concept is rescued to articulate the reflection on the way of acting and working, which also guides the production of territorial cartography.

3.1 Main dimensions involved in the investigative process and guidelines for Indisciplinar's cartographies

Although we have been working with territorial intervention-research on several fronts since 2012, only in 2016 did we pursue a more systematic outline of the processes and methods adopted by Indisciplinar. During the prior four initial years, the group's numerous actions with social movements and other networked collectives against the advances of neoliberal urbanism – promoted by a series of works involved in Major Urban Projects (notably OUC Nova BH) – nearly monopolized the group's activities.

In 2016, however, we felt the need to produce a self-analysis of the group's production so far, as well as to understand the main theoretical and practical aspects that guided our ways of building and transmitting information. This effort to systematize the work, which had not yet been possible due to the temporal specificities of the struggles with which the group was involved – whose urgency often clashes with the longer time required by academic research – resulted in the presentation of the article "Research Group Indisciplinar: method, activism and technopolitics in the defense of urban commons" at the Contested Cities 2016 congress in Madrid. The text presents a cartography of the main actions of the group between 2012 and 2016, discussing how our teaching, research and extension programs and projects had been merging from four main dimensions:

I) Spatial / territorial: a) through the creation of collaborative digital mappings that bring together georeferencing tools with the possibility of acting in network and in real time, using softwares such as Crowdfmap, Googlemaps and Mapas de Vista, b) producing collective cartographies from face-to-face meetings, such as workshops; II) Temporal: through the production of timelines that analyze the chronology of the investigated phenomena and their relationship with parallel events / events of the urban, national and global dynamics; III) Conceptual and informational: using Wiki pages (ie, enabling the collaborative, procedural and networked production of knowledge), as a way of organizing the theoretical precepts that guide our research, as well as the means of producing / storing databases. ; IV) Communication or networking: from the tactical use of social networks and widely used communication channels on the Internet, such as fanpages and events on social networks, blogs, etc. (Rena et al, 2016, p. 3)

From that moment on, the investigation of the work method became one of the main work fronts of the group, advancing in parallel, but in an articulated manner, to the network action with the urban struggles underway in the territory. Thus, the group starts to focus more on the processes and devices used by researchers-interveners to generate and transmit information, starting to invest even in the production of its own tools such as the IndAtlas digital platform – which will be mentioned in the next topic. Another result of this effort was a list of guidelines for Indisciplinar's Cartography, which seeks to enumerate instructions for the group's work in line with its theoretical assumptions:

- To make-know-transform, cartographing reality;
- To activate micropolitics in a transescalar mode;
- To constitute processes of political, academic, militant and / or activist investigation that do not separate theory from practice;
- To use destituent and constituent tacit and strategic techno-political devices
- To build research-intervention processes from the experience in struggles. Unlike the method - Meta-Hodos - scientific, traditional, cartesian and positivist, which is a way of proceeding to accomplish goals, cartography is a Hodos-Meta, which has its own path as its goal;
- To investigate imbricating subject and object in the information construction processes;
- To act in the blind spots of the struggles, studying and translating, in a synthetic way, the laws and official documents, for example;
- To enhance ubiquity, using technopolitics (networks and streets);
- To act in the real time of struggles with open, flexible and variable agendas;
- To build from bets that go beyond scientific hypotheses;
- To create an appropriate research environment for the academic performance of activists / activists;
- To work in networks with multiple actors (not as technical advisors).

Naturally, the application of such guidelines also encounters a series of contradictions, limitations and challenges, requiring adaptations to be made on each front of inquiry. Among these challenges, it is worth mentioning the heterogeneity and the disputes present between different partners and, often, among the researchers themselves. The plurality of networks in which the group operates (involving organized movements, neighborhood associations, collectives, political parties, etc.) reveals divergences and internal conflicts of interest that have to be constantly negotiated between those involved. As already mentioned, the temporalities of struggles and research work are also very different. The time required for rigorous academic reflection often conflicts with the urgency of the demands of struggles, which require the production of almost immediate information. All these aspects are intrinsic to the investigated processes and reflect the diversity of actors involved in urban struggles. However, there are also obstacles, risks and noises that constantly cross the proposed method and cause tensions in the production of information by the group.

3.2 Directory of processes and work platforms of Indisciplinary's cartography

For the analysis of the cartographies produced from the four axes described above, in order to point out the main contributions and limitations of the group's production until 2016, we observed that a varied repertoire of technopolitical actions were adopted. These involved from databases for the group's internal use (Wiki , Google Docs spreadsheets, Arcgis maps), to the use of platforms like Crowdmap, to produce collaborative online mappings, passing through communication and mobilization material, as well as through the everyday use of the Internet and social networks (Facebook fanpages, blogs, Youtube, streaming).

A specific form of visualization that has become important for informing about urban struggles in our research processes is what we have been calling a *Cartographic Narrative*, comprising links to stories in the media, legislation, academic and outreach documents. This everyday means of narrating used blog pages as a dynamic repositories of all content produced about the themes accessed and connected (through hyperlinks), also providing access to timelines and georeferenced maps produced on other platforms and embedded in the blog of each narrative.

Regarding the notion of the researcher as an actor inserted and active in the investigated networks, the processes of constructing information also involve participation in council meetings, public hearings and talks with social movements. Many times, this way of acting led the group to assist in the production of legal pieces for representations and denunciations in bodies such as the Public Prosecution Service or Municipal Councils or, alternatively, reflected in the production of artistic or cultural events.

It is essential, however, that this network-built information also impacts the academic production of the group. Thus, we have organized national and international seminars which are moments of exchange between research partners from other institutions, as well as opportunities for the consolidation of scientific, political and cultural reflection. Also, in this sense, Indisciplinary's indexed journal (<https://bit.ly/2CqM1Nk>) was created, whose hybrid language articulates academic texts with essays and artistic contents (photographic essays, architecture and urbanism projects, among others), dedicating special attention to the publication's graphic design.

Concerning the teaching-research-extension tripod, there is a systematic offer of undergraduate subjects in the UFMG Architecture course, articulated with the themes of ongoing investigations. Whenever possible, we opt for subjects open to students from all university courses. This is another resource we explore in order to articulate academic research involving teaching, research and extension.

The first of these open subjects – offered in 2013 – focused on mapping movements and social groups important for the insurgent occupation of Belo Horizonte's central territory. Gradually, began a process of not only acting in the microsphere, together with the urban struggle networks, but also of producing information and knowledge capable of articulating local action with a transescalar thought. Thus, it became possible to aid resistances with information that gives visibility to the blind spots of the struggles: complex data about large urban projects and decisions in a larger sphere, often disregarded by the groups acting in the microscale. Such an effort revealed the need to advance in collaborative cartography and brought the group to bet in the collective construction of systematized and synthetic information through infographics, diagrams and digital platforms. In all these processes, knowledge production is pursued in a collective way, involving from PhD professors to undergraduate students, including the group's master's and PhD candidates, whose themes of research projects become new themes of research for the group, or are associated with existing action fronts.

4 Cartographic, genealogical and plateau method

In all activities and actions reported in the previous topic, the aim was to give visibility to the struggles of social movements working in Belo Horizonte, through the production of counter-narratives published by

academic channels (events, journals, books), by social networks, and also in representations and reports used at the time of denunciation and / or negotiation with the government. The material produced by the group had, and still has, as its main objective to produce alternative narratives to contrast with the information given and conveyed by hegemonic discourses.

With the political coup that occurred in Brazil in 2016, it became urgent to map not only the movements in struggles, but also the struggles in motion, that is: the unfolding of the disputes at stake, their advances and their impasses, their weaknesses and contradictions. We realized that it was even necessary to complexify the very concept of resistance, which, for each militant and / or activist group, had different connotations, and on several occasions did not converge to a common goal. Moreover, we note that the criticism of the perverse proximity between the State and capital should not be confused with a discourse of devaluation of the State, which has hitherto recurred in academia, including in our own production. Such criticism often underestimated the importance of the role of the State in promoting public policies aimed at equity and social justice in our country. It became necessary to rethink concepts, discourses and ways of acting that we were using. The study of the method as one of the group's main research fronts, therefore, constitutes a fundamental step in this conceptual review.

4.1 Building a cartographic method

It is important to note that since the beginning of the research group, the philosophy of difference proposed by Deleuze and Guattari has been an important reference. As already mentioned in the previous topic, the concept of rhizome, for example, is the basic principle for understanding cartography as a way of experimentation and construction of mobile and open maps, susceptible to constant connections, from which reality is presented. and modified (Deleuze, Guattari, 2005, p. 22). Reality here is understood as a force field in which the dynamics between groups are systematically configured and reconfigured.

The group also found in the Actor-Network-Theory (Latour, 2005) an important conceptual reference, because of the conceptual similarity between the ideas of *network* and *rhizome*. In the book *Reassembling the Social*, Latour explores the ANT and, even though the author claims that it is not a method, we believe it is possible to observe methodological guidelines for the construction of a cartography. To this end, the Latour first proposes to feed on uncertainties for which he has five sources: 1) No Group, Only Group Formation; 2) Action Is Overtaken; 3) Objects too Have Agency; 4) Matters of Fact vs. Matters of Concern; e 5) Writing Down Risky Accounts.

Regarding the first uncertainty, Latour (2005) states that there are no groups by themselves, only group formations, which indicates the need to map the controversies surrounding these articulations. The author suggests that one should identify the group formation spokespersons, as well as their anti-groups, shared bonds and established boundaries be (Latour, 2005, p. 27-42).

As for the second uncertainty, if, on the one hand, action must be perceived beyond the act itself, at the same time, it is not pertinent to merge and reduce all forces to a single vector of exclusively social character. The origin of the action is uncertain, and so it must remain. One has to keep the surprise and the occurrences going. The Latourian concept of actor-network carries this simultaneity: the actor is subjected to power forces present in the network, but also interferes and acts in this network. It is, therefore, a relational concept of what is an actor, which is identifiable through its action in the network, but at the same time, considers this action also uncertain and displaced.

Regarding the nature of the facts, in the construction of a cartography based on uncertainties, one should not seek the premature unification of reality in matters of fact, but instead keep the unfolding of the mapped questions in permanent motion. This implies the mobilization of diverse entities to explain a "solid objective reality" (Latour, 2005, p. 91), in which "artificiality and reality marching in step" (Latour, 2005, p. 90) and "fabrication and artificiality are not the opposite of truth and objectivity" (Latour, 2005, p. 124). In this process, it is necessary that issues of interest are highlighted and that reality is unfolded so as not to be unified prematurely. For this, it is important to pay attention to the various heterogeneous realities, as well as to "feed off uncertainties" (Latour, 2005, p. 115), rather than prematurely defining the appearance of a single reality.

The uncertainty regarding the nature of objects is brought about by Latour from the following statement: any thing that does modify a state of affairs by making a difference is an actor" (Latour, 2005, p. 71), even if this object is non-human, not only determining but empowering, allowing, stimulating, interrupting etc.

The last uncertainty pointed out by Latour refers to the writing of the reports, which, according to him, is always a risky activity. Considering that the cartography of the controversies has as its objective the *construction* of the facts, that is, "meant a renewed attention to the number of heterogeneous realities

entering into the fabrication of some state of affairs" (Latour, 2005, p. 92), the proposed constructivism is in direct opposition to absolutism and, to a certain extent, to possible *relativism*. At this point, the author states that "the solution to relativism is always more relativity" (Latour, 2005, p. 122), understood here as the activity of reporting.

Also according to Latour, in the second part of the same book another call is made: to learn the "topography of the social" (Latour, 2005, p. 170), from a "2-D projection" (Latour, 2005, p. 172). For this, it is necessary to resituate the global, to redistribute the local, and to connect the revealed points (Figure 1).

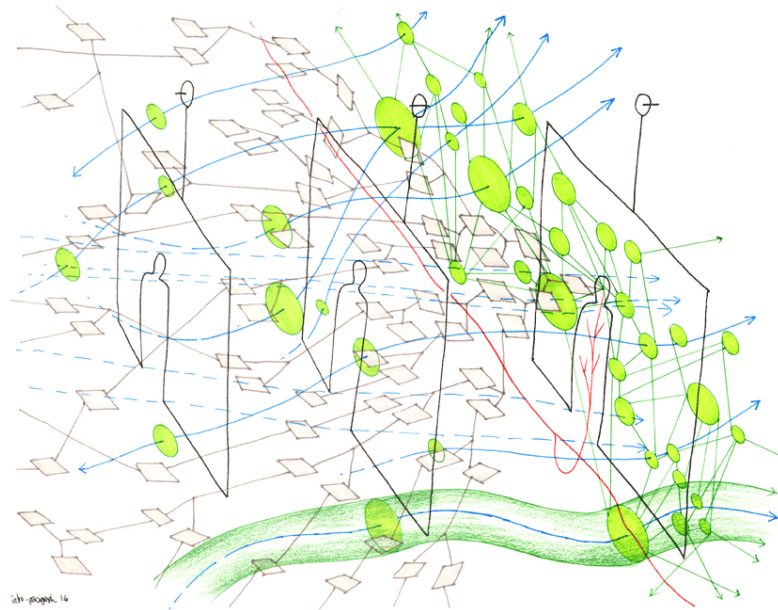


Fig. 1: Topographies of the rhizome. Source: Marc Ngui, 1987. Available at: <http://www.bumblenut.com/drawing/art/plateaus/index.shtml>. Accessed: 10/28/2019.

It is well known that Latour did not intend to construct a method, much less a methodology, but rather a "travel guide" (Latour, 2005, p. 17). However, the group relied on its assumptions to propose the construction of a "cartographic, genealogical and plateau method", thus assuming both the advances that this design can provide, as well as all the risks that this venture may offer. In order to arrive at a complex and rhizomatic map, it was decided to start this process by asking simple questions, avoiding pre-established clusters (economic, political, social, cultural, among others), which may mask associations of varied and hybrid dimensions.

Thus, a group of 4 questions was defined: what? (event), why? (narratives or figurations) who? (human actors) and what? (nonhuman actors). The answers to these questions configure the nodes of the network under construction, from which it will be possible to identify the group formations (how?), as well as the connections between the nodes (what are the force relations?). By organizing this network on a timeline (when?), it becomes possible to map its developments and some of the most evident controversies.

Events can be mapped from academic sources (books, theses, dissertations, articles, etc.), hegemonic or non-hegemonic media (newspapers, television, social networks, etc.), in formal interviews or informal conversations, triggered through games, videos and other modes of interaction. With this, a genealogy of facts is intended. For the same event (a fact marked in time), there is more than one narrative. It is, as Latour says (Latour, 2005, p. 55), figuration, that is, different forms that are attributed to the same action, without making an early separation from what may be false or true, exact or figurative. From the diversity of narratives, the first controversy generated by the same event will be mapped (Figure 2).

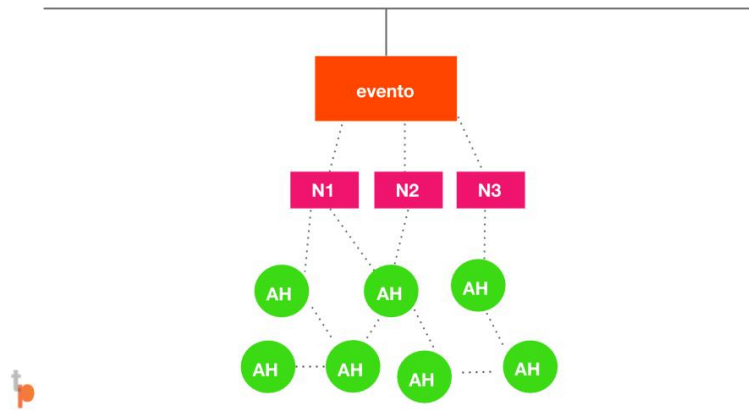
1ª: Questão de fato vs questão de interesse: eventos + narrativas



Fig. 2: Diagram of events and narratives. Source: Indisciplinar Group, 2019. Available at <http://territoriospopulares.indisciplinar.com/metodo/>. Accessed on: 10/28/2019

For each narrative, it is possible to identify the human nonhuman actors associated. With this, the group formations can be mapped, as well as their boundaries, from which it can be highlighted the groups that are placed on opposite sides in a certain context and / or circumstance (anti-groups), and mainly the eventual intersections between the identified formations, constituting the second controversy (Figures 3 and 4).

2ª: Não há grupos, apenas formação de grupos: ator humano + CONEXÕES + FORMAÇÕES



3ª: Os objetos também agem: ator não-humano + CONEXÕES + ARRANJOS

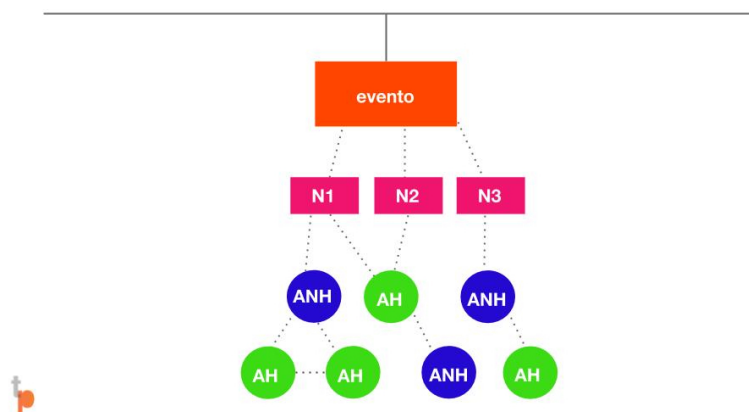


Fig. 3 and 4: Diagram of group formations. Source: Indisciplinar Group, 2019. Available at <http://territoriospopulares.indisciplinar.com/metodo/>. Accessed on: 10/28/2019

At the boundaries between groups and anti-groups it will be possible to map actors (human and non-human) who are associated with different formations, which will allow the identification of the second controversy (Figure 5).

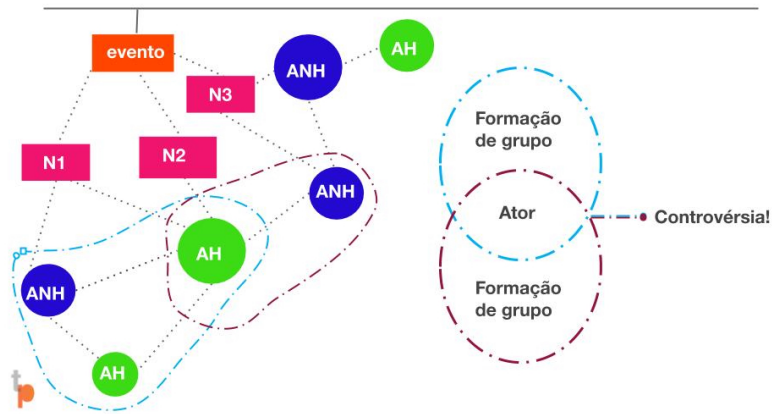


Fig. 5: Controversy identification diagram 2. Source: Indisciplinar Group, 2019. Available at: <http://territoriospopulares.indisciplinar.com/metodo/>. Accessed on: 10/28/2019

These diagrams can be anchored on a timeline, incorporated into another simple question asked at the beginning of the process: when? It is important to note that this timeline does not have a single direction towards a future or progress. It will be possible from this temporal tool to map out the unfolding and disruptions of group formations in a non-causal way. In addition, the identification of the spokesperson actors will be based on the identification of the one with the largest number of connections. The emergence or disappearance of a particular actor (human or non-human) can also signal something important (Figure 6).

4ª: A ação é assumida: ator humano + ator não-humano + narrativas + CONEXÕES + ARRANJOS

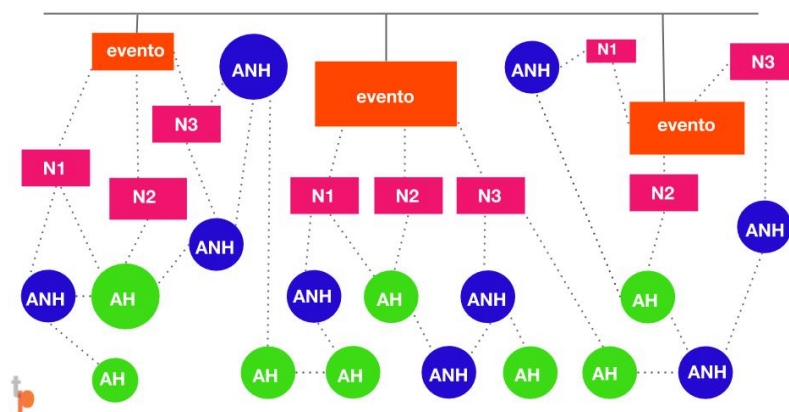


Fig. 6: Diagram of group formations and their unfoldings. Source: Indisciplinar Group, 2019. Available at: <http://territoriospopulares.indisciplinar.com/metodo/>. Accessed on: 10/28/2019.

The timeline will be a reference to several overlapping layers, understood as plateaus. These plateaus can have scalar (local, national, global, for example), conceptual (same concept approached in different ways) or formal (timeline, maps, narratives, videos) dimensions. After all, “everything is data” (Latour, 2005, p. 133). For the construction of a complex but not total and absolute rhizome, it will be necessary to make transverse connections between these layers, to identify other controversies (Figure 7).

5ª: Escrever relatos de risco - **indissociabilidade** entre:
FONTES + BANCO DE DADOS + DISPOSITIVOS DE CAMPO + VISUALIZAÇÕES

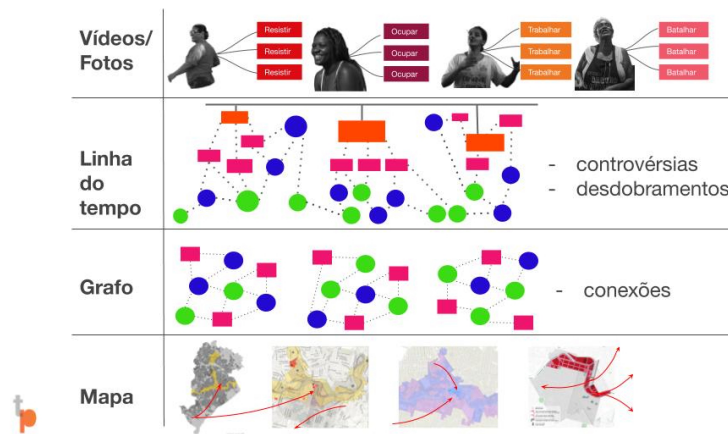


Fig. 7: Diagram of a plateau research. Source: Indisciplinar Group, 2019. Available at <http://territoriospopulares.indisciplinar.com/metodo/>. Accessed on: 10/28/2019

Thus, facing a large volume of information gathered, mapped connections and mapped controversies, the research group is developing an online platform called INDAtlas (Figures 8 and 9). The purpose is to create an open and interactive database that is composed of a temporal dimension (timeline) and a spatial dimension (maps), as well as connecting graphs between events, narratives, human and non-human actors, connected to the map and the timeline. However, there is no pretense of totality in the produced cartographies, only of multiplicity of information and reports.

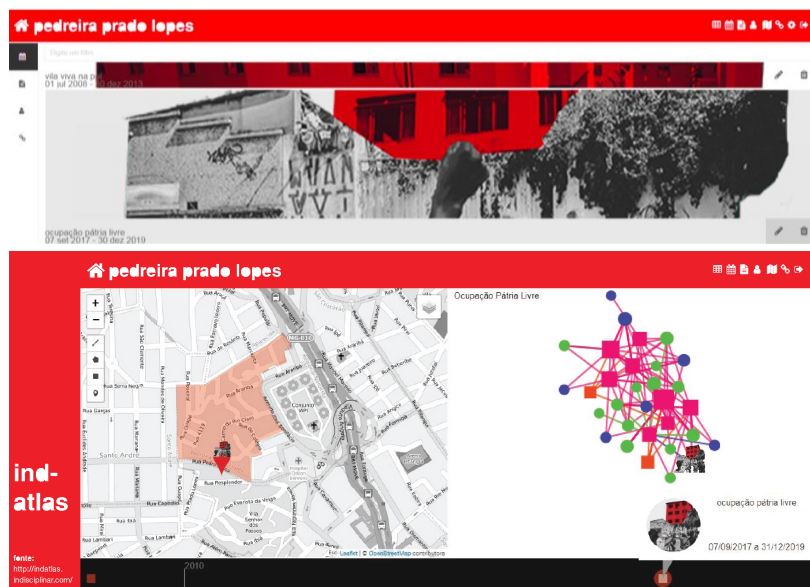


Fig. 8 e 9: INDAtlas platform. Source: Indisciplinar Group, 2019. Available at <http://indatlas.indisciplinar.com/themes/deff3cf8-aa53-4e84-83fd-9da639b03932/>. Accessed on: 10/28/2019.

In addition to this platform, Indisciplinar has a great concern with the accessibility and aesthetics of the generated graphic material, and the group is increasingly interested in building interfaces with the language and the support of the visual arts, such as photo documentaries and in which the interviewees' voices are amplified and their faces are seen.

5 Final remarks

We begin this article with the discussion about the construction of information, from the understanding that such construction is crossed by power relations. Following, we presented the guidelines listed by Indisciplinar for the development of cartographic processes triggered by the group, as well as their main dimensions and the repertoire of processes and work platforms developed. Finally, we present the "cartographic, genealogical and plateau method" devised by our researchers, in order to complexify the understanding of the advance of capital on the daily life of residents of socially vulnerable territories, thus avoiding simplistic dichotomies and fragile analyzes based on predetermined essentialist concepts.

It is believed that the systematization of knowledge production methods within research groups is important to contribute and foster reflections on the power disputes involving the legitimation of certain information over

others. It is worth remembering that the production of space is increasingly crossed by forces that support the advancement of capital, affecting everyday life and the production of subjectivities in urban centers. Mapping how group formations take place, based on their connection with certain narratives, allows us to identify the intersection points between groups, as well as possible recurring pitfalls in the dispute processes investigated. It is therefore hoped that it will also be possible to strengthen the connections between the collective and collaborative processes already at work in territorial disputes.

However, the challenges are considerable, since it is a theoretical-methodological approach that calls for calm explanations, which, even without assuming scientific neutrality, calls the researcher to “feed on uncertainties”, to devote to uncertainties’ machinations and operation, only then to unfold and analyze the arrangements and movements of the networks.

Finally, we understand that the research method discussed here fits into an approach of the university which role goes beyond mere knowledge transfer and the preparation of professionals to the labor market. The university is assumed, therefore, as a social actor of great relevance in the production and debate of contemporary cities and urban public policies. However, assuming oneself as one of the network’s actors does not mean that academia should occupy a unique and authoritarian place of knowledge. Instead, researchers need to participate in struggles with social movements. What must be ensured is the autonomy of critical thinking, so that the blind spots of struggles are made visible, and that differences and advances in struggles are affirmed. The same way, the pitfalls should be identified and avoided, as in the case mentioned concerning the role of the state. Within this approach, extension achieves a major role, since it is the main responsible for the articulation between university and society, enabling a more coherent academic production with the social and political reality of today’s Brazil. Controversies and contradictions will always arise, it is up to us to always be aware of them.

Throughout the group’s work, our concerns and actions are discussed, and this writing is done as a means for reflection and criticism, allowing new perceptions and new propositions to emerge, without pretending to reach definitive conclusions. Thus, without ignoring the thickness of the reports, nor exhausting the controversies or flattening the dissents, we assume an in process knowledge-building and the inevitable risk that exists in any systematization of thought and information. Wefts are shredded and retraced, but surely some threads remain loose, allowing new weaves to be built.

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1 UFMG: Federal University of Minas Gerais.