P/REFERENCES OF DESIGN

THE DESIGNER'S STANDPOINT: FEMINIST EPISTEMOLOGIES AND AGNOTOLOGY AS A ROAD MAP FOR SUPPORTING WRITING PRACTICE IN DESIGN.

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ABSTRACT | This paper has a twofold objective: 1) to provide leads to explore design's epistemic potential, through standpoint epistemologies and agnotology. The former because they defend the possibility of a knowledge that is relative to a point of view, thus highlighting a pragmatic tone that fits very well with design's ambition. The latter because the acknowledgment of ignorance supports the consideration of ethical stakes– thus defining more accurately the designer's position; 2) to outline a writing practice that would embody this epistemic potential and solidify design as its own science. I believe that design provides a great opportunity to produce an irreducible knowledge, grounded in a specific social situation, embracing different social dynamics that structure it. I advocate the idea that such knowledge would come to existence if designers were to integrate a "writing phase" within the design process.

1. Introduction

This paper has a twofold objective. First, it intends to explore design's epistemic potential, to present leads for work to come that will support design as a science in itself. Secondly, it advocates for the integration of a writing practice within the design process, supporting the idea that writing will allow designers to extract knowledge from their field–information that would not be accessible by another discipline. I believe that these two dimensions are linked to each other: because writing is not merely an expression of knowledge but a way to consolidate its existence, notably by rendering it shareable. So while I intend to outline ways for designers to make the most of their singular perspective on reality, to redefine their epistemological ambition, I advocate that each of these ways should indicate something about the type of text designers should write.

One might want to ask first: what do designers pretend to know? What "object" to they "study"? One could say it is "the collected experience of the material culture, and the collected body of experience, skill and understanding embodied in the arts of planning, inventing, making and doing" (Archer, 1979). This implies that the kind of problem they face presents a specific complexity and that the skills that are better suited to solve them are not universally applicable (Cross, 2007). Each project asks designers to produce, *ad hoc,* the form of research demanded by the field of intervention. Regarding that requirement, designers occupy an ambivalent position. They approach a field, *borrowing* various tools from social and human sciences (Nova, 2014). But where do they "stand" vis-à-vis said tools and methods? What preliminary hypothesis underlies their inquiries?

Social sciences are somewhat torn between empiricism and theory (Berthelot & Collectif, 2012; Merton, 1997). The danger of an empiricism-dominated science is that it fails to place data into a broader context that will give its meaning (Moreau de Bellaing, 1990). That is the need for theory: only theories make sense of the phenomenon observed. Designers have empirical tools, but do they have theory? We have been struggling with this question for decades without coming to a consensus (Jones et al., 2016). There are different epistemologies out there: some are more dominant, or "popular", or "prestigious" than others (Silva, 2019; Studley, 1998), some aim at universality while others prefer local approaches, some are realists, some are constructivists (BonJour, 2009), some are individualistic, some are social (Bouvier et al., 2007). Which ones are the most fitting for designers?

In this paper, I intend to use two epistemological approaches that can, I believe, benefit design as a discipline: standpoint theories and agnotology. I will start by defining the conceptual foundations of my analysis and will try to clarify the designer's position vis-à-vis standpoint theories (1). I will then dive a little deeper into standpoint theories and, more specifically, into feminist epistemologies, in order to defend the idea that valuable knowledge comes from embracing the singularity of a point of view as well as the specific interests–ethical and/or political–that accompany said point of view (2). I believe these epistemological theories justify a pragmatist dynamic that fits very well with the design practice. I will finally explore the relatively unknown discipline of agnotology in order to show that ignorance is not a simple absence of knowledge but something to consider and deal with in order to tackle a design problem (3). These two approaches should help designers build ad-hoc theories, hypotheses grounded in the concrete situation their project takes place in. I will defend that these theories should admit a pragmatist dimension and assume a minority point of view.

2. What Epistemology? What Knowledge?

How do I understand epistemology? Here, I will leave behind an epistemology that is understood as the study of forms of justification of knowledge to prefer a conception of epistemology as the study of the modes of production of knowledge and ignorance, as well as of the social dynamics implied in the formation of cognitive and affective capacities involved in the production of knowledge (Frega, 2013). In that regard, I defend that knowledge is not only the representation of states of facts but also the knowledge that agents have of themselves, of others, and of the social world (Sullivan & Tuana, 2007).

Standpoint theories and feminist epistemologies insist on "situated knowledge" and reveal links between a social situation–its distribution of power–and the specific access to knowledge the situation allows. They highlight the epistemic privilege associated with a socially situated perspective. In other words: one's social situation defines the kind of knowledge they have access to. It is no surprise Marxism presents a classic model of standpoint theory, the standpoint of the proletariat offering an epistemic advantage over questions of social science and history (Lukacs, 1972; Marx, 2015). Workers attain this epistemically privileged standpoint through collective consciousness of their role in the capitalist system of production. Their oppression leads them to find out the truth about capitalism. The centrality of their role implies an experiential access to the relations of capitalist production.

Moreover, standpoint theories show that political and axiological neutrality isn't necessary. On the contrary: being involved in the situation, being concerned, letting one's value guide their research gives access to some information that would remain unknown otherwise (Harding, 2010). Since design projects are always grounded in a concrete social situation, and since design aims at changing the situation for the better, this conceptual frame appears fertile. But at the same time, because of the ambivalence of the designer's role within the capitalist system, one must clarify their position. They are closer to the client's brief than to the user's experience and, by default, occupy a dominant position (Beaubois 2019). Can designers work for the minor point of view while embodying a dominating perspective?

The position of being epistemically dominated favors the development of three epistemic virtues: humility, curiosity/diligence and open-mindedness. On the contrary, the dominant position, as shown per the Critical Race Theory, implies the symmetric epistemic vices: arrogance, laziness, and narrow-mindedness (Medina, 2012). I do not have the statistics of social representation among designers. There are obviously designers of different genders, races, sexual orientations… It would be counterproductive to reify the category of "designers". I cannot affirm they all are in a socially dominant position but I will start from the principle that they are for two reasons: 1) because of their dominant position within the system of production–they conceive for the user, they are the ones deciding what the user's experience will be like, and that is by definition a position of power (Beaubois, 2019); 2) because the goal is to embrace dominated perspective as much as possible (without reification). So, I invite designers to chase all the blindspots that can come from social privilege.

Because standpoint theories not only address perception and information availability–it also outlines whole realities or worlds (Chamois, 2019). What we know and what we ignore define what we call reality. Whether designers know it or not, each design project implies the building of a bridge over a gap: it is all about responding to the user's needs or desires which are, evidently, rooted in their "world". In that regard, I believe that designers should address both their own social situation and the user's, in order to appreciate the gap that exists between them.

Following standpoint theories (Anderson, 2020), for both perspectives, designers should define (i) the social location; (ii) their scope: (on what subject matters do they differ; (iii) the aspect of the situation that generates epistemic dis/advantage (social role, gender, ethnicity…); (iv) the ground of its dis/advantage ; (v) the type of epistemic superiority/inferiority it implies (accuracy, diversity, exhaustivity…); (vi) the other perspectives that may access/miss relevant information; (vii) the accessibility of the perspective (can one temporarily adopt it? Does it rely on years of experience?). Designers should investigate, in collaboration with the users, the epistemic privileges of the subordinated. What kind of fundamental social regularities do their perspective reveal? What arbitrary–and thus mutable–social arrangements?

Designers are not scientists and when they convey science in their work, they do so with a certain conception of science that they inherited. There again, a proper survey among designers to assess their understanding of epistemology would be extremely useful. Meanwhile, I postulate that they adopt the dominant conception of science: realist, formal, ideologically and axiologically neutral (Harding, 2010). In one word: positivist. This postulate is supported by Nigel (Cross, 2007) who presents the "values" of science as "objectivity, rationality, neutrality, and a concern for 'truth'", while humanities would favor "subjectivity, imagination, commitment, and a concern for 'justice'". Moreover, Cross considers that the

former's phenomenon of study is "the natural world" and the latter "the human experience". This is obviously caricatural: natural sciences can no longer pretend to be neutral (Girel 2017, Feyerabend, 1988) and human experience can evidently be objectively studied. In the following, Cross states that design's phenomenon of study is the "man-made world". I believe it is rather the experience of the man-made world. I want to defend the idea that design has a lot to say precisely about the experience of technical apparatuses, whether it is an object, a service, a system or an experience.

Audre Lorde famously said that the "master's tools will never dismantle the master's house" (Lorde & Clarke, 2007). And if a positivist approach to science is so intimately linked to the rise of modern industry (Carnino, 2015), designers who intend to take a step back from the industrial world should probably, following Lorde's wisdom, question the epistemic tools they're using. This paper is addressed to the community of designers who believe the trade must play a role in the cultural and political shift that is needed today. I believe that the specific knowledge designers can have access to is revealed to them only insofar as they embrace an activist attitude towards their project. Only when they see clearly what value they are defending through their project can they attain an epistemically privileged perspective.

3. Minorities and Perspective

3.1 Stronger Objectivity: Feminist Epistemologies

Bruno Latour called for a "proper description" (Latour, 2004), as a way to produce knowledge that is relevant to an issue. He semi-ironically claims to defend objectivist sociology as a way to reaffirm the necessity to conceive objects rather than just propose symbolic interpretations. A good description reveals the complexity of the object. It isn't a mere compilation of evidence-based data but a way to highlight the reality of one point of view, as an objective reality. The description is objective, not absolute. It does not pretend to say everything there is to say about the object, but it tells us everything one perspective has to say. The question that immediately arises then is how to define the designer's point of view. To answer that question, one has to first define the designer's object. What constitutes a designer's problem? I believe it to be the "technical experience" (Laborde 2023).

One way to represent it is to picture a spectrum going from pure technicality or functionality to pure speculation. For any topic, say, IA, there are an infinite number of discourses possible. At one end of the spectrum, there is the IT engineer's which describes the mechanisms of said IA, how it works. At the other end of the spectrum, one finds the philosophers questioning what IA means for human beings. Designers occupy a space at the middle of the spectrum: neither pure functionality nor pure meaning, they deal with the "meaning of functionality", the experience of a technical apparatus (object, service, system…) in all its complexity, calling in imagination, and values among other things. Designers are no philosophers, sociologists or psychologists, but they can channel these discourses to build their own: a description of what it means, for the users, to experience a technical situation. Once the object is determined, the perimeter of the description also is.

The idea that a pure description could be more than "just a description" resonates with standpoint theories: describing what you see, when you're the only one seeing it, becomes valuable information for everyone else. The minor point of view reveals unknown parts of reality–the mere expression of it can be enough. It is no surprise, then, that feminist epistemologies recognize the value of description. If one were to characterize Donna Haraway's "way of theorizing, it would be to redescribe, to redescribe something so that it becomes thicker than it first seems" (Haraway, 2013). In that perspective, one could picture the designer's job as an investigation in order to report on the minor point of views that are engaged in the project's situation. If done properly, a thorough description of the situation from these dominated perspectives would provide valuable information. But how to describe it? Where to start and where to stop?

For each project, there is a multitude of experiences and some of them are marginalized. As shown by feminist epistemologies, valorizing the forgotten point of views can lead to building stronger objectivity

(Harding, 2010). Thus, each project should call for a mapping of the relations of domination involved in the situation. The ones that are directly concerned (the relation between users) as well as the ones that are indirectly concerned (the social situations of all parties involved). For instance, if a designer were to work on a school classroom, they should take into account the relation of domination that constitutes a teacher-learner relationship but also, the social class of the teachers and students. As I experienced it myself, teaching in a school where students have a much higher social status than the teacher can alter the pedagogical dynamics of the teacher-learner interaction. Moreover, the social situation students aspire to also defines the class dynamics. To put it bluntly: if students aim at jobs that pay a lot more than the teacher's, it can have an impact on the learning experience in its whole.

Beyond the specificity of the situation designers intend to intervene in, they need to be able to situate the project within the broader context of social, political and cultural ideologies. In that sense, one would expect designers to be able to diagnose said ideologies: which ones are prevailing? How is their domination manifesting? What are their allies? Their "weapons"? They need a cultural understanding of the conflicts that structure the society they live in, in order to understand how their project is going to fit among these different forces. Acknowledging the complexity and diversity of these social conflicts will lead designers to see the world as a "non-neutral" reality. Certain paradigms are, indeed, getting the best of their opponents. Understanding as thoroughly as possible the unbalanced nature of society can help designers decide how to position themselves.

If designers, after their investigation, choose to embody a minor position, if they decide to take on some of the dominant forces, it should lead them to access data that would remain invisible otherwise. In other words, a win-win: access to data should be good for the project itself and also enable designers to produce knowledge. If they were to write/describe all the information they gather from the dominated perspective they investigate through, they will reveal specific knowledge that is irreductible–that only designers could reveal. This would support an epistemic ambition for design, participating, along other social sciences, in the description of an objective reality. Assuming the limit of one's perspective becomes the best way to reaffirm its epistemological ambition.

3.2 Embracing the Limitations & Mapping the Balance of Powers

Instead of trying to grasp and comprehend the situation in its entirety, instead of aspiring to attain a synoptic view, designers would work with and from blindspots, without pretending to overcome them. The goal could be to produce a map of all the ignorance and knowledge involved in the situation, as they approach it. Who knows what? What is unknown? What is needed to know? What should remain unknown? Designers aim at finding solutions to issues which can lead them to search for positive data to ground their project on. That can lead to an overconfidence bias and a false sense of expertise (Gigerenzer, 1991). Their research could very well, rather than just gather available information, highlight ignorances that are involved in the potential settlement of the product or service. In order to complicate the relationship between the project and reality. The project is not a pure solution to a problem and knowledge is not pure data answering a question. Knowledge is uncertain and ignorance is even more uncertain. To write about the evidence (or lack thereof) that constitutes the background of the project is to reveal its limits as well as its potential. It highlights the complexity of the design intervention.

Mapping the design intervention through the lens of domination, and situating the field of intervention within social dynamics and hierarchies will help designers free their views from the dominant perspective. Because if they do not produce that work, that critical map, they will be, inevitably, oriented by the dominant perspective. The dominant perspective feels neutral–it appears as "apolitical" precisely because it favors the status quo: norms are an expression of power (Deleuze & Guattari, 1980). Designers should, in that regard, approach the situation and the project as situated in a non-neutral social reality. In order to identify the axiological components intricated in the situation, designers need, in my opinion, to produce textual artifacts that report on all the dimensions involved. How is the power distributed? Who is heard? Who is invisible? Who is concerned? What are the material conditions of existence? What norms are convoked? Who has to put up with said norms?

Standpoint theories do not limit themselves to highlight a difference of experience. It is not enough to acknowledge that different situations imply different points of view. Standpoint theories insist on the relationship between knowledge and power, rather than knowledge and difference. And that is inspiring for designers: in order to understand the specificity of the perspectives of all parties involved in the project, they need to assess and clarify the relationships of power that structure the situation. It is not only about listening to the people concerned but also about working with them to build, through the writing of a text, a representation of the network of powers that frame and determine their experience. More than mere "social subjects", the goal is to establish minority political subjectivities. The design project then becomes the occasion to turn from an experience-centered approach to a situated-knowledge approach. Considering the design project as a political struggle, as a work that is in conflict with dominating forces, would help transform the mere experience into a situated knowledge (Hartsock, 1983)

Situated knowledge is the type of knowledge that is rendered possible by a position of minority, which can be described as a position of resistance. One has to identify the forces that we resist to in order to understand the form of knowledge that the position offers access to. It is because the individual experiences something that prevents them from expressing their power, that limits their actions, that they need to perceive, observe, analyze the situation. When one dominates a situation, they can act spontaneously. When one is dominated, they cannot but think things through. This is something that can be observed among handicapped persons: they create tools and services that answer better to their situation than the ones proposed by institutions (Ménard, 2023). This is the type of "stories" designers need to write about. They are in the best position to describe the system of powers that spreads in a situation that involves a technical apparatus (object or service). Thus, they can tell us about the hidden dimensions of the experience. As Maria Puig de la Bellacasa puts it: "we need to analyze the dominating, structural and institutional remit through which the experience is built and that is not necessarily readable in the experience" (Puig de la Bellacasa, 2014). Approaching a situation through the distribution of power allows to highlight information that is usually hidden.

4. Knowing & Doing

The second epistemological perspective that I find to be helpful for design is agnotology (Proctor, 2008). Every knowledge is related to what is ignored, every research is defined by what is left unfound or unsearched (Girel, 2017). Science practice and thus the knowledge produced by science are intricately linked to political decisions, if only in terms of fundings (Frickel, 2014b). No science or research is ever exhaustive nor neutral. Since design is not a science in itself and since its goal isn't a mere description of reality but rather an intervention, a modification of it, the research designers engage in is even more subjected to this form of partiality. Rather than fight it, I advocate for designers to embrace this partiality.

4.1 A Pragmatist Epistemology

As per William Kindon Clifford, science is not reducible to knowledge itself–science is a specific way to obtain and to use knowledge (Clifford, 1901). This is all the more interesting that such a definition can help support the goal of conceiving design as science–since design projects always articulate knowledge and action. If the design project can pretend to produce science, it is, precisely, because the knowledge that designers seek is directly correlated to a function, a practical goal. There is a pragmatist foundation to the epistemology design can aim at. Understanding knowledge within a pragmatist paradigm leads us to shift our values: what matters is not to know X but to understand what problem is concerned/affected by/solved by X.

In my opinion, a consistent writing practice for designers should adopt a similar approach: every information gathered, through inquiries, interviews, observations or theoretical research must be linked, as precisely as possible, to a practical problem. I believe that research for the project would be more efficient if it were driven by a pragmatic posture: what does this information change for our issue? This implies that design research should be about questioning the value of any information. When starting a project, designers face multiple issues embedded in each other. Some issues are entirely practical and concern the

feasibility of their concept. Other issues are more theoretical and concern their understanding of the situation they plan on intervening. Other issues are more clearly political and address inequalities, accessibility, inclusiveness… To clarify the goal is to clarify the relevancy of the data gathered.

There is a vast spectrum of questions that structure the research for a design project. These questions lead the designers to encounter various information/data/knowledge. To organize all that knowledge, to take advantage of the sum of information gathered, I believe designers need to write–specifically to produce science, to actualize links between knowledge and problems, data and function, information and value. Designers should always come back to the questions that started the investigation in the first place: why is this situation problematic/sub-optimal? What does the user's experience mean to them? What should we aim for, and why? These are some of the questions that should accompany the first step of the design process. Every information should be confronted with these questions. What does this knowledge tell us about them? What does this finding change? Does this observation ask us to reformulate them? Does it render them obsolete? To investigate the value of an information demands to write–because it demands to produce a discursive text, a reasoning, because problematization supposes to confront concepts with each other.

4.2 Knowledge and Ignorance

How is science, more broadly the production of knowledge, understood by designers? To wish for design to produce a scientific perspective, one has to question the relationship designers have with the "idea of science" and of knowledge. What constitutes knowledge? When is one able to state that X is a knowledge? What is a fact? What can we trust? Designers are not engineers. Engineers work within a perimeter of knowledge that has been established for more than a century–engineering is basically applied science. Their conceptions follow well established scientific facts. But because design intends to build an experience, it immediately steps out of the secure space of "well-established facts". It needs psychology, sociology, ethics… and these disciplines are built on very complex epistemologies. How does a designer conduct their research? What source do they privilege? When do they know they can trust a study–rely on it?

These questions are clear methodological issues. But I wonder, beyond these challenges, at the root for their inquiries, what do they aim at? By that, I mean to ask about the phenomenology of their experience of research: what are the signs they identify and believe in? What do they think is "supposed" to happen during research? When do they start thinking they reached a satisfying amount of "knowledge"? To explore this dimension of our problem, one interesting discipline is agnotology (Frickel, 2014a)–the science of ignorance. One intuitive option is to conceive knowledge in relation to ignorance (Girel, 2017). But an easy mistake immediately pops up: to think of knowledge and ignorance as a binary opposition–like light and darkness.

Another way of saying this is that research and science may be understood as a way to gain knowledge and, thus, to reduce ignorance. One can picture reality as a map to explore–scientists being the explorers who discover new territories. And since the understanding of the laws of the universe generally leads to mastering said laws, to use that understanding in order to control our environment, the map metaphor easily changes. Not only do we explore territories, we also conquer them–we subjugate them (Merchant, 2006). Each knowledge gained is like an annexed territory. But this is obviously not a neutral representation of science by any means. And one could argue that this view is directly linked to the ecological disaster we are currently facing (Merchant, 1990).

If designers intend to be part of a bigger movement which aims at avoiding the disaster, then they need to approach their projects with a different conception of knowledge than the one that led us to the catastrophe in the first place. What could be a healthier way of dealing with ignorance? Brian (Wynne, 1992) invites us to abandon a logic that aims at reducing ignorance, to adopt a logic of integration of ignorance. Instead of pretending to eradicate ignorance, we take its existence into account. Ignorance questions the link between knowledge and the commitments that are taken on its basis. These are bets (technological, social, economic, political bets) placed on the completeness and validity of said knowledge. Integrating ignorance allows us to leave a binary logic where one either refrains from betting or goes all-in, to adjust our bets, to adopt a gradual logic.

Following that idea, to think that each project needs to ground itself in knowledge is both true and insufficient. Not only does it need knowledge, it also needs a representation of what is ignored. If science can be defined as an ignorance fully aware of itself (Firestein, 2012), then designers should not only try to gain information–they should try to define the function ignorance plays in the situation they will intervene in. This outlines another way of working: instead of going from ignorance to knowledge, one could go from belief to ignorance. Instead of trying to build, to establish, to construct a representation of reality, one could try to define what is unknown, what is uncertain, and what will remain inaccessible. In that regard, the goal is not to "understand the situation better", but to better "not-understand" it. To understand precisely why we do not comprehend it and why our understanding will forever be limited.

I believe this is one possible outcome for a design epistemic discourse. If designers were to produce an "ignorance map", if they were to identify blind spots, if they were to write about their projects through the lens of what is ignored, they would learn a lot about what constitutes a technical experience. To narrate how a design project evolves among ignorance is to teach precious lessons on how technical apparatus are built, and installed. It reveals how we place our bets, teaching us how technical apparatus are expressions of our mental representation of reality. To narrate the project and to highlight how blindspots are dealt with is to reveal a fundamental aspect of human existence–how our technical relationship to the world is linked to our understanding of it and our system of values.

4.3 Epistemic Relativity and Political Responsibility

By mapping what we do not know, we identify what we need to know as well as what we might never know, thus revealing the epistemic solidity of the bets that structure the project, and, by that, highlighting the designer's responsibility. How far must we carry our research for this project? How careful must we be? If research is the formulation of interesting ignorance that defines territories to investigate (Girel, 2017), one has to question who is in a position to identify said territories. Scientists are not the only ones: local residents' associations, communities, social movements… I believe designers are in a perfect position to co-construct these territories with the users. If designers were to produce texts that would report on what users identify as things they need to know for such matter, this would constitute a precious piece of knowledge as well. Because it would help map the technical experience, showing how knowledge and ignorance play a part in the user's experience of the apparatus.

It is neither realistic nor safe to ask designers to ground their projects on scientific sources. For one, they are not trained to navigate scientific data, even less so given that social and human sciences do not always aim for universal consensus. Secondly, in order to trust a sociology or psychology study, one has to have a deep understanding of the different methodologies used and epistemological backgrounds–an expertise that only professionals can hope to obtain. Thirdly, because lobbies and governments can actually "produce ignorance" (Girel, 2017). What we can expect of designers, though, is to produce a form of "local knowledge" which gathers, on top of the user's feedback, their hypothesis, the degree of confidence they have in said hypothesis and all the significant ignorance they've identified. We can expect designers to build an argued map of the beliefs and ignorance which play a part in the conception and implementation of the product or service. Thus, they can inform us both on the field they're intervening in through the lens of the improvement of experience that is initially aimed and on the epistemic opportunities and difficulties faced by those who try to build a "better quality of life".

4.4 Science of Design

As previously said, standpoint theories defend the idea that being engaged in a problem actually leads to better understanding. In that regard, I believe that designers should state their commitments and explicitly link these to their research of information. It is because designers assume the responsibility to work for better living conditions that they will access knowledge that remains invisible to the rest of the world. Good science is a science that takes its pragmatic and political dimensions on. Designers can become that very kind of scientist: instead of letting knowledge shape their understanding of the situation they will intervene in, they could render visible the connections between a practical goal and a complex ensemble of

knowledge and ignorance: "When one tries to fix X and Y, this is the type of information that arises". This means we should leave objectivism behind, in favor of objectivity. The former implies a form of scientism which leads to mimic the style of the more prestigious sciences (Puig de la Bellacasa, 2014). And this is a risk that concerns us vividly: designers are susceptible, to gain a form of legitimacy, to adopt the tone and perspective of more established voices (sociology, anthropology…). I have personally witnessed this numerous times with design students (Author). Objectivity, on the contrary, reveals a point of view, assuming its limits.

Design science should not adopt a form of discourse but, rather, build forms ad hoc, for each project, each commitment. Because each project implies different values, different dominations, different networks of powers, each project asks for a specific description of how the "problem" is discovered, how the intervention of design is called and how this call implies values. And that also means we need reflexivity: as any social scientist, the designer must submit to the "systemic examination of their own positions, of their own social causes and of the beliefs that motivate their research" (Puig de la Bellacasa, 2014). We need to encourage designers to produce theories–however unfounded or prejudiced. A flawed theory is better than no theory at all: it leads the inquiries and helps give data meaning. Meaning needs context to arise and I advocate for that context to be the technical experience in all its complexity (emotions, values, symbols…).

The goal, for scientists, is less to "tell the truth" than to "make themselves understood" by other scientists, to allow dialogues and the collegial building of knowledge. Each scientific practice is supported by an epistemology. But this need not be absolute, neutral, or universal. It can be "held" by a collective project–by a community. Designers can write and produce science that makes sense within the design community. Designers should write papers virtually addressed to other designers. For a said project, they would highlight how their values–and the attempts to conceive something that supports them–lead to discovering valuable information. It would help the community of design understand how an ethical or political commitment, an aspiration to a "better quality of life" (WDO), enables an objective yet partial representation of reality

5. Conclusion

Instead of producing research that pretends to be of scientific quality but is actually never checked nor peer-reviewed, I believe designers should give report on a limited triangular space defined by three terms in relationship with each other: 1) their goal (in terms of practicality as well as values); 2) their ignorance (what needs to be known and what will remain unknown); 3) the distribution of power among all parties involved in the situation their project takes place in.

I believe that if each team of designers, for each project, were to explore these three dimensions, very valuable knowledge could be extracted. I think such exploration necessitates the practice of writing. To question prejudices and beliefs, to assess reasonings and values, to investigate the difference between perspectives, one has to dive into conceptual nuances that are only achievable through discursivity: every scientific discipline expresses its findings, theories, and conclusions in papers. To produce a complex thought, one has to build it with words and sentences. Moreover, for something to become data, or information, it needs meaning. An observable phenomenon has meaning only in so far as it is related to a theory–to a hypothesis about how things are or should be.

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