

Practices and normativity Philosophy of Science, Agency and Epistemic Normativity*

Prácticas y normatividad Filosofía de la ciencia, agencia y normatividad epistémica

[Artículo]

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Abstract

The present work aims to present the notion of eidetic agency as a novel account for the understanding of an epistemic normativity based on practices. The eidetic agency (Fonseca, 2020) and (Fonseca, 2023) is a modality of material agency that, scaffolded and extensively, delegates epistemic agency to formal artifacts that become evident in the materiality of the signifiers of artificial languages. Such eidetic artifacts constitute an epistemic normativity that, although it is based on implicit practices and norms of scientific practices, overcome certain problems derived from that reading. The first section of the text presents a definition and general analysis of the project of a normative epistemology based on practices. In the second part, the relationship between practices in science and scientific regulations is deeply analyzed, based on the premises of Martínez and Huang (2011). Finally, a possible solution to the theoretical problems derived from such reading is proposed, with the approach of an epistemic normativity based on eidetic agents.

Key words: Philosophy of Science, practices, normativity, epistemic normativity, agency, eidetic agency.

Resumen

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El presente trabajo tiene como objetivo presentar la noción de agencia eidética como una postura novedosa para la comprensión de una normatividad epistémica basada en prácticas. La agencia eidética (Fonseca, 2020) es una modalidad de la agencia material que, andamiada y extensivamente, delega agencia epistémica a artefactos formales que se hacen patentes en la materialidad de los significantes de los lenguajes artificiales. Tales artefactos eidéticos constituyen una normatividad epistémica que, si bien se basa en prácticas y normas implícitas de las prácticas científicas, superan ciertos problemas derivados de dicha lectura. La primera sección del texto presenta una definición y análisis general del proyecto de una epistemología normativa basada en prácticas. En la segunda parte se analiza profundamente la relación entre prácticas en la ciencia y la normatividad científica, a partir de las premisas de Martínez y Huang (2011). Finalmente se propone una posible solución a los problemas teóricos derivados de dicha lectura, con el planteamiento de una normatividad epistémica basada en agentes eidéticos.

Palabras clave: Filosofía de la ciencia, prácticas, normatividad, normatividad epistémica, agencia, agencia eidética.

Suppose people ... calculated this way when they wanted to distribute sticks. If nine sticks are to be distributed among three people, they start to distribute four to each. Then one can imagine various things happening. They may be greatly astonished when it doesn't work out. Or they may show no signs of astonishment at all. What should we then say? "We cannot understand them."

Wittgenstein [RFM, 203]

Introduction

The idea that science is a natural genre, with a strong a priori imprint, and with the desire for a strong unification, would seem to be the territory that must be abandoned if more fertile paths are sought in the philosophy of science. Science was understood following a traditional perspective as a special form of relationship with reality. The demarcation of science would result in a deflationism of other human activities. Rorty's illuminating chapter, "Is natural science a natural kind?", pertinently describes the situation:

One of the principal reasons for the development of a subarea within philosophy called 'philosophy of science' was the belief that 'science' (or, at least, 'natural science') named a natural kind, an area of culture which could be demarcated by one or both of two features: a special method, or a special relation to reality. The further suggestion, implicit in Carnap's work and made explicit by Quine, that 'philosophy of science is philosophy enough', was a natural extension of this belief. For just as Plato was content to leave the world of appearances to the philodoxers, so many of the logical empiricists were, implicitly or explicitly, content to leave the rest of culture to itself. On their view, once the job of demarcation has been accomplished, once the distinctive nature of science had been accurately described, there was no need to say

much about the other activities of human beings. For, since man was a rational animal and science the acme of rationality, science was the PARADIGMATIC human activity. What little there was to say about other areas of culture amounted to a wistful hope that some of them (e.g., philosophy) might themselves become more scientific (Rorty, 1958, p.24).

In an interesting interpretation of Rorty's position, Martínez and Esteban call the currents that adhere to such a conception as theoreticians. These define science as the set of theories that observe a certain method. Said a priori is correspondingly related to a pre-established agenda of problems, which consists of modeling evidence with theories (Martínez and Esteban, 2008, p.6).

The a priori-ism that constitutes science as a syntactically well-supported set of propositions is then criticized by what can be called the study of scientific practices. This is based on empirical studies on science that reward the historicity of scientific knowledge. The project of a new philosophy of science would then consist of affirming the normative structure of science and its articulation in practices (Martínez and Esteban, 2008, p.7).

Therefore, one of the central concepts for the philosophy of science that the proposal maintains is that of practice. Coined mainly by the philosophy of the second Wittgenstein (1956), Kuhn (1962) and Hacking (1982), the concept of practice refers mainly to actions related to the context of validation, and to the historical background of the disciplines. Any norm related to science arises from the dynamics of scientific disciplines. The purpose, therefore, is to speak in a general sense of general normative structures of scientific knowledge. The practices are normative. And “any characterization of scientific practices requires explaining in what sense scientific practices are cultural or social practices” (Martínez and Esteban, 2008, p.13). Therefore, scientific normativity would not refer to universal typologies, but rather normativity comes from specific historical moments that can subsequently be assimilated, and gradually recognized and accepted (Guillaumin, 2008. p. 117). Martínez and Esteban state in this regard: “Science can be conceived as a set of cultural practices capable of aligning and collaborating to pose and solve problems that arise in life in society” (Martínez and Esteban, 2008, p.13).

Normative epistemology based on practices not only refers to a set of beliefs that can be modeled in certain formal semantics, but to all the elements or practices that enter into the competition of any type of rational inquiry (Martínez, 2008, p.13). The argument about normativism and naturalism “overlooked analyzing a core feature of the historical development of science: that this is a highly regulated enterprise and governed by different mechanisms that it itself integrates or generates over time, and that such mechanisms are not they reduce to using methodological rules” (Guillaumin, 2008, p.115). Following Laudan (2006), what it is all about is descriptively finding normative consequences of specific means that are historically successful in achieving certain desirable ends. There would be specific cognitive goals to which certain types of statements with degrees of obligation are attached that capture cognitive relationships that allow these goals to be achieved. Guillaumin expands the explanation by stating that:

“Historical normativism is based on a basic historiographic premise, namely, through the historical analysis of science we can detect the process by which a merely tentative norm in science comes to possess normative force and become tacit” (Guillaumin, 2008, p.126). Such normative statements are necessarily testable due to their historical nature and the impossibility of determining, a priori, the entire set of practices that surround science as a cultural process.

Next, the paradigmatic proposal of Martínez and Huang (2011) will be specifically analyzed regarding the possibility of an epistemic normativity based on this style of thinking that advocates practices in the field of science, as an epistemic hinge for subsequent reflection on epistemic normativity, founded on the notion of eidetic agency.

Towards regulations focused on practices

Martínez and Huang's reading begins by affirming the primacy of philosophical problems over practices at the beginning of the so-called philosophy of science. They state that: “The philosophy of science emerged as a way of doing philosophy focused on the philosophical problems generated by the production of scientific knowledge, its methods of validating knowledge and the structure of its theories and models” (Martínez and Huang, 2011, p.1).

In this sense, they link the philosophy of science, in its genesis, to logical empiricism and the Vienna Circle with its main philosophical and scientific exponents. They point out as their great project the construction of a unified encyclopedia of science. Against the metaphysical tradition, a scientific philosophy is postulated that is based on mathematics, logic and physics as disciplinary models. From this follows the possibility of a project of unification of science based on a logical syntax of language, also based on the set of verifiable observational propositions.

The logical empiricists also affirmed, according to the authors' reading, a certain structural symmetry between scientific normativity, evidence, and theory. From this entire philosophical vision emerges the reduction of the philosophy of science to a structural analysis of normativity, relative only to scientific theories as systematizable belief systems that are characterized by the use of a privileged language (Martínez and Huang, 2011, p.1).

For this reason, the complex social framework of institutions and processes inherent to scientific practices would not be relevant when evaluating scientific theories. The distinction between context of discovery and justification constitutes a strong limit for the purposes of the philosophy of science at this moment in its development. Given this, the authors postulate a new criterion, which I allow myself to quote at length:

When we talk today about a philosophy of scientific practices, we want to suggest that, for the philosophy of science, as Neurath suggested, the normative structure of science cannot be understood by abstracting from this entire complex of actions, activities and beliefs that constitute those practices. In particular, we want to suggest that science cannot be understood as merely theoretical rationality, the type of rationality that is reduced to a list of criteria that allow us to choose the best empirically supported theories. It is necessary to consider a broader rationality, a practical rationality that in particular has to do with the evaluation of our actions as part of behavioral patterns regulated by practices (Martínez and Huang, 2011, p.2).

The plausibility of his proposal focuses on three theses that we will analyze below.

Relevance of practices in the Philosophy of Science

First, a philosophy of science based solely on theories leaves aside many essential elements in the construction of scientific knowledge, since these practices have an explanatory component. The authors list classic examples that illustrate this characteristic of their proposal for scientific normativity. Theory-centered philosophy of science formulates an argument that the authors define as the argument of the irrelevance of practices in philosophy of science, namely:

1. The PS accounts for the normative structure that allows science to be explained as an advance in knowledge guided by rational criteria.
2. Any relationship between evidence and theory can be represented formally and can be evaluated independently of context.
3. Practices are not formally modellable.
4. Therefore, practices cannot be explanatory resources in PS.

According to the authors, the key to the refutation of the argument is necessarily given in the second premise and, from now on, they dedicate themselves to examining various ways of presenting that statement and its main criticisms.

At first they analyze Neurath's objections to the meaning of the premise. Neurath thinks of scientific language as a sum of forms of representation, that is, ways of integrating various types of scientific languages or jargons. Such jargons cannot be essentially formal, given that our language is natural or ordinary language, which can become sophisticated to the point of artificial languages, but without ever abandoning its nature and normativity that is in some cases diffuse and ambiguous (Neurath, 1913). The structure, that is transparent in this system, is therefore apparent and should integrate any type of jargon that can represent scientific work, including scientific practices. Regarding this, Martínez and Huang note:

The material dimension of science that is structured in instruments and apparatus plays the role of jargons that mediate between different activities and ways of representing them. Standards here play the role of reference points, indications about the limits of what is possible, based on a design and with respect to a certain type of process and result (2011, p.8).

From this we can affirm that there are sets of implicit rules in the development of devices and representation systems, as relevant elements for the development and evaluation of scientific theories. Thus, and continuing with their interpretation of Neurath's thought, they affirm that contextual norms or auxiliary motives are required for both theoretical and practical thinking; Auxiliary motives guide our actions and rational beliefs in contexts where uncertainty is possible (Neurath, 1913). Thus, the set of norms is not exclusively scientific, but, although these norms are ethical, legal, etc., they can play epistemic roles in certain particular types of practices. These auxiliary reasons must be anchored to values of high social consensus under high criteria of rationality.

Another thought that questions premise 2) is that of the doctor and microbiologist Ludwig Fleck. This argues that medicine is not pertinently guided only by logical and mathematical normativity; Medicine does not want to regulate normal phenomena but, rather, abstract the phenomenon of disease into observations; “the bad the doctor is the more logical in his therapy” (Fleck, 1927, p.46). Norms arise and are established in particular case studies. Martínez and Huang state in this regard:

According to Fleck, scientific research, to the extent that it seeks to understand a specific phenomenon, develops its own thinking styles. We must understand these styles as cognitive and normative instruments in the sense that they guide us regarding which aspects are possible candidates for generating interesting observations, generating knowledge, or they guide us regarding possible variants of the phenomena that are important to understand them, or they scrutinize the possible solutions (2011, p.10).

Fleck and Neurath agree on the conception, according to which, there is no pure objectivity of observation, that is, that all observation is tied to the backgrounds where it is the case. The results of this work configure concepts and research styles that are not necessarily used explicitly by researchers. This is mainly due to the cooperative nature of scientific work and the social and institutional elements that intervene in the achievement of an objective that, over time, and after being achieved, seems to be configured in a rectilinear way and by certain privileged actors (Fleck, 1927, p.153). According to Martínez and Huang, Fleck is perhaps the greatest ancestor of a sociology of science and of many of Kuhn's theses (1962, p.12).

The next refutation of 2) analyzed is Michael Polanyi's account. They state about this proposal that: "Polanyi suggests that a theory of scientific knowledge must be based on the phenomenological and existential relationships that take place between the epistemic subject and that which is known, whose understanding necessarily requires taking into account the personal components that intervene in a scientific research" (Martínez and Huang, 2011, p.13).

According to the Hungarian author, explicit rules and observations can account for their rational objectives within the framework of a context full of fiduciary budgets (Polanyi, 1958, p.164). This type of implicit knowledge is a set of fallible or defeasible premises, something like the enthymematic procedure of science. Polanyi's proposal is reconstructed by the authors in a pertinently clarifying paragraph:

In order to achieve knowledge, a critical mechanism established socially and institutionally is required, which guarantees intersubjective evaluations of personal knowledge. As the personal and tacit knowledge of a scientist is built within the tradition to which the scientist belongs, it is important that a scientific institution not only protects and promotes the freedom of research of individual scientists, the freedom that makes possible the exchange between members of different traditions, but must also establish intersubjective criteria to overcome the self-determination of a single tradition (Martínez and Huang, 2011, p.17).

The analysis of these three paradigmatic examples allows the authors to establish a new epistemological perspective that goes beyond the task of modeling formal structures on theories susceptible to adaptation to data and measurements. The proposal consists of assimilating the diversity of elements implicit in scientific practices as relevant issues in the process of generating scientific knowledge, given that: "The practices point to a certain dependence of what knowledge is on our ways in which we learn from experience, and in particular, the ways in which our ways of acting in the world are transformed into knowledge, into patterns of explanation or understanding" (Martínez and Huang, 2011, p.19).

Centrality of Epistemology

Secondly, a philosophy of science focused on practices does not imply, in opposition to certain constructivist theses, the abandonment of epistemology as a module for understanding the nature of science.

Firstly, scientists have redefined objectivity after the contributions of the Vienna circle and Quine's famous criticism of the difference between synthetic and analytical. The origins of the rules must be tied to studies beyond a priori structures. Neutral observations are always theory-laden that influence our observations of empirical data. What ultimately determines the possibility of sharing information is not a common empirical basis, but rather certain shared assumptions that allow us to understand a theory and its empirical adequacy.

Objectivity, in the classic sense of logical empiricism, has also been criticized throughout the history of science. The milestone that is constituted in the work of Kuhn (1962) derives from the need to rethink the simplistic views on the philosophy of science that are limited to iteratively formulating relationships without background on the relationships between theory and empirical adequacy. They state in this sense:

Normal science is strictly controlled by a paradigm, which determines the content, purpose, and method of an investigation. Investigations in normal science articulate and extend the paradigm by solving puzzles that use previously established exemplary solutions. These activities typical of normal science do not respond to the Popperian methodology, nor to an inductivist methodology, because the resolution of puzzles depends on how researchers perceive and apply the exemplars, which cannot be specified by a single set of methodological rules. universally applicable in all normal science research (Martínez and Huang, 2011, p.20).

The recognition of epistemic norms that allow us to opt for a normalized science paradigm and typology emerges within the sociology of science as a source of questioning the traditional vision of objectivity.

On the other hand, the sharp division between context of discovery and context of justification also drew a wide gap between philosophy of science and sociology of science. One would deal with the epistemic conceptual structure of science and the other with the impact of external factors on said epistemic framework. At the end of the 20th century, a new perspective was proposed that was associated with the so-called sociology of knowledge.

To the extent that knowledge is considered to be reduced to beliefs accepted as knowledge in a community, the problem is reduced to understanding consensus mechanisms as an interaction between social agents. This requires assuming that social causes explain all types of norms, and therefore an extreme epistemic relativism seems to follow as a consequence (Martínez and Huang, 2011, p.23).

The issue then consists of proposing intermediate visions that do not assume the social component as the only structural element of the philosophy of science and its normativity, but rather add the component of epistemic normativity.

An example of this, among others, is the proposal of Latour and Callon. The underlying issue is the distinction between natural and social (Latour, 1987). Given that these ontological limits vary historically at the level of their understanding, explanations must account for all types of actant, that is, agent in the broad sense (Latour, 1987). All these elements work in a network and self-vindicate, as long as there is a greater number of relationships, nodes and stability. Regarding the strong thesis of the sociology of science, they differ in a certain sense, as Martínez and Huang explain:

Callon and Latour argue that (...) many constituent aspects of scientific knowledge, such as material and technological conditions, the cognitive and technical capacities of scientists, etc., are not explainable exclusively by social causes (...) That is, in addition to the discursive resources, scientists can also appeal to the material, instrumental and technological resources that are part of the actant network (Martínez and Huang, 2011, p.25).

However, Latour's model has been criticized as insufficient by relevant authors such as Pickering (1995). According to this, scientific activity cannot be tied to pre-existing issues. Scientific research is contingent and tied to its temporal development. Over time, it encounters resistance typical of the aforementioned contingency. The scientific consensus is a certain dialectic between resistance and accommodation.

According to the authors, Guillaumin's analysis can resolve some differences in the interpretation of the character of a philosophy of science not centered on theories. Its analysis allows us to see that traditionally epistemic normativity is directed towards a theoretical product. His proposal better addresses a science that demonstrates the epistemic virtues of scientific processes (Guillaumin 2008).

For all this, an alternative interpretation of Kuhn may be a good proposal for the problem being faced: "Rouse argues that Kuhn can be interpreted in another way: instead of considering scientific investigations as revolving around the

representation and observation of the world, it is better to take them as revolving around manipulation and intervention” (Martínez and Huang, 2011, p.30).

Although one cannot bet so surely on a correspondence between theory and reality, one could coherently observe the existence of certain entities through manipulation and intervention.

Practices as an explanatory resource in the Philosophy of Science

Finally, the authors refer to certain conceptual problems around the concept of scientific practice, and, above all, the explanatory power of scientific practices. The problem consists of the integration of the elements described into a philosophy of science. The demands on a theory of science of this type are made explicit by Turner (1999) and explained by Martínez and Huang:

(...) the plausibility of a theory of science that takes the concept of practice as a basic explanatory resource depends minimally on two lines of argument. First, he has to argue that the concept of practice is necessary for that theory to be adequate; Second, it has to show that the concept of practice is not a trivial explanatory variable, that is, that it is not reducible to other concepts that explain with the same efficiency everything that the concept of practice can explain (Martínez and Huang, 2011, p .33).

The authors therefore begin their argument in favor with the argument of the underdetermination of the rules by the observed regularities as follows:

A1. The implicit character of certain types of practice concepts is necessary to explain the origin of normativity, since explicit norms alone are not sufficient to do so.

The following argument states that:

A2. The concept of practice is indispensable for the epistemology of science since it is what allows us to adequately understand the nature of epistemic normativity.

Finally, they structure their argument in defense of the concept of practice with A3:

A3. The concept of practice is indispensable for the epistemology of science, since it offers us a better way to model scientific rationality.

The first argument is not extensively explained and relies on the authority of Wittgenstein (1956), and Brandom (2005), who have used it in their explanations of rule-following and normativity.

The second, A2, begins its defense from the analysis of the foundation of epistemic normativity that appears from divided schools. One is the traditional explanation from the explanation of the cognitive and axiological structure of individuals. Its counterpart is radical social epistemology, according to which social norms are those that justify human actions and, therefore, epistemic normativity would be a derived concept. Such a dichotomy seems to be harmful and to overcome it, a naturalized social epistemology is proposed (Martínez and Huang, 2011, p.35).

In this naturalized social epistemology, the concept of practice is an indispensable explanatory variable, since only through this concept of practice can we detect the social character of cognition. The concept of practice allows social epistemology to take seriously the way in which cognitive elements play a crucial role in the construction of knowledge. The concept of practice allows us to adequately explain the situated nature of cognition (Martínez and Huang, 2011, p.36).

A3 is then realized through two main premises: “The first is that scientific rationality goes beyond the choice of theories. The second is that the establishment and application of means/end norms require a series of contextual factors explainable only by certain concepts of practice” (Martínez and Huang, 2011, p.38).

The first has to do with the possibility of explanatory compatibility between two apparently divergent theories. This is the case, for example, of classical mechanics and quantum mechanics, which seem incompatible, but can be thought of not as universal and complete representations, but as part of technological systems that subsume models and forms of prediction and explanation of phenomena. .

The second is related to the possibility of understanding rationality as a way of deciding between theories without appealing to an idea of universal rules. A philosophy of scientific practices thus has a contextual character that

understands that knowledge does not come from universally applicable rules but: “It has to do with the way in which types of activities, in particular interactions with other agents, are codified, individualized and classified. and with what are recognized as material resources, which implicitly take into account the limitations of time and information processing capacity that we have in a given situation” (Martínez and Huang, 2011, p.40).

Thus, the last stage consists of showing why the concept of practice is not reducible and, therefore, is essential for a philosophy of science. The concept of practice must have an explanatory nature. The first element is the importance of scientific discovery. The various factors such as sociological, technical, etc., show the necessity and intended irreducibility. On the other hand, knowing how and knowing what is, according to the authors, an irreducible dichotomy. The irreducibility of pragmatics to semantics is then affirmed, since many implicit skills are built in specific material means and with different senses of practice (Hutchins, 1995).

Perhaps this aspect is of vital importance, since the concept of practice does not seem to have a common meaning, but, rather, appears as a plural concept with blurred contours.

Agency and epistemic normativity

According to Martínez Huang, practice is normally understood as, “a certain type of embodied knowledge, for example, in skills, ingrained dispositions, linguistic competencies, etc.” (Martínez and Huang, 2011, p.43). However, according to Turner (1994), it is not possible to infer that practices are mental entities with causal properties, with the mere observation of manifest behaviors. The collective nature of the practice opposes the possible perspicuity of a conception of this type. The problem spills over into the problem of the uniformity of collective practice and the coordination of mental states. Apparently there are no objective standards that all practices share.

Turner's solution, according to Martínez and Huang, is to consider them individual habits (2011, p. 44). The social does not explain the practice, but rather it should explain what the social is. They then propose another solution.

If we understand practice in other ways, as an articulation of heuristic structures, for example, or more generally, if a practice is characterized by both explicit and implicit norms established in specific contexts of actions, a theory of practices characterized by this form will be based on empirical studies of the ways in which different contextual factors configure these norms (Martínez and Huang, 2011, p.45).

Practices should not be seen as transmissions but as constructions based on certain available resources (Martínez, 2003). That is, practices are not understood only by their semantic dimension, but by non-representational norms that arise after sharing situations with a consistent history (Martinez and Huang, 2011, p.49).

The problem, as can be seen, is closely related to the different theories that reveal the nature of agency as inherently a dichotomous matter. On the one hand, we can think that acting is a matter linked to intentionality and the second has to do with acting being linked to acting for a reason or a desire (Davidson, 1963). Without any commitment to them, they all affirm the coherence that should exist between the disposition, and the causality that occurs between said mental state and the subsequent configuration of events. A being can then exercise agency if it constitutes intentional actions, and possible derived non-intentional actions, due to a capacity generally tied to the constitution of mental states (Schlosser, 2015). As can be inferred, this type of conception of agency is related to the typical conception of practices in philosophy of science that the authors want to reevaluate.

One view of agency, which emerges from but distances itself from the standard theory of action, is the event-causal approach to agency. Actions are events if the causal history of such an event can be established. The agent is something like an actor in the historical causal chain of events (Schlosser, 2015). From this conception emerges a naturalistic style regarding the conception of the nature of agency; one cannot think of a teleology or causal substantialism. This type of

reading may be closer to the style of a normativity based on practices such as the account of Martínez and Huang.

However, the problem shifts to the normativity of knowledge, and the type of knowledge that intervenes in our actions. We cannot maintain, if agency is conceived according to the naturalism described above, that the knowledge of a particular or collective agent does not intervene in any way in actions of any kind and, particularly in scientific activity. The sense of agency, as a self-perception that we know our actions, (Anscombe, 1957) or of interpretations after the action that tend to show my relationship with it, (Wegner, 2002) allows us to understand, however, that certain reasons about awareness of our intention make a difference in knowing how we act and how we should act.

Epistemic agency, at a level of normativity, should account for how we should think about our actions, that is, to propose models of possible modes of scientific practice. And this is because the philosophy of science, and philosophy in general, should not consider the simple idea of describing and naturalizing problems as the only route to follow. The same naturalist project is based on a metaphysics of the causality of events above actions, which has nothing of naturalism.

Agency and its epistemic normativity, it seems, must stop looking for the epistemic noble savage who has a vernacular formula of thought that the neurosciences will one day manage to describe. Human beings and other agents think and act through artifacts, among which language and its different variations are the main one. The different logical and semantic systems can be counted as the best routes of human thought and guides of agency over time. Epistemic normativity, strangely, if it wants to be based on a history of practices, could ask how certain types of semantic artifacts have organized our episteme and our daily action for centuries, and how its analysis with respect to normativity is rather found in certain methods. formal and not in a social history of scientific practices. Society itself, it seems, is a beautiful artifice of our models of how we should act and is not simply a description of how there are certain types of beings that have movements, behaviors, customs, or actions. Perhaps language is the route to manifest the thought structure of the noble epistemic savage and its evolution.

Eidetic agency, practices and epistemic regulations

The initial approach to an eidetic agency appears in the chapter entitled *Eidetic agency: material agency, artifacts and eidetic agents* (Fonseca, 2020). The notion can be preliminarily understood as a scaffolded extension of the mind in language:

Certain artifacts that are often called abstract or ideal objects—hence they are called eidetic objects—can be thought of as scaffolded extensions of the mind that, in turn, enable the formation of new forms of epistemic agency and normativity. In this sense, signifiers, or also understood as the material aspect of certain abstract, formal or ideal objects, are the material element that generates agency and epistemic normativity (Fonseca, 2020, p.54).

The idea arises from the possibility of ascribing genuine agency to beings lacking intentionality (Schlosser, 2015). The epistemic foundation is linked to the causal coherence derived from material objects, from the causal coherence of mental states. (Mele, 1992). Given this, a causal coherence can be analogously established between a goal, the means, and the fulfillment of epistemic agendas, following the pioneering postulates of Aristotle (1957) in relation to extensions of consciousness.

We can then speak of a non-intentional agency or agency without mental dispositions. We can attribute agency to beings who do not know or control their dispositions as doxastic beings; beings that neither desire nor reflect on their desire, but can assume vicarious agency, like most artificial intelligence artifacts.

It can be understood, from these premises, that there are non-intentional agencies that are integrated into causal relationships of online action that surpass, permeate and determine human action (Fonseca, 2020, p.45).

Material agency is then the launching pad for an eidetic agency. This affirms, under the previous arguments, a genuine agency to the artifacts (Latour, 2008). The proposal appears as a response to the debate about whether “(...) material entities have agency and in what sense this condition impacts the human/non-human dualism as a basis for understanding action, intentionality and production” (Parente, 2016, p.140). The authenticity of a scaffolded material agentic process thus depends on the degree of capacity for affectation and

possible modification of a state of affairs, beyond the level of intentional control or a specific representational content (Latour, 2008, p.106).

Eidetic agency therefore contains a strong component of delegation and agential scaffolding, based on certain postulates of the proposal of a material agency. Eidetic agency makes evident a system of anchoring causal relationships of meaning that do not require mental forms of representation, or are contingent. Following Parente, eidetic agency shows that: “Artifacts, with their physical properties, are as essential for the exercise of the mind as mental states” (2016, p.145).

Eidetic agency is a modality of material agency that, scaffolded and extensively, delegates epistemic agency to formal artifacts that become evident in the materiality of the signifiers of artificial languages. The concept of *Begriffsschrift* coined by Frege (1879) is the direct precursor of this type of artificial, formal, and abstract artifacts that model thought. Eidetic artifacts foster an agency that is hooked to our epistemic system, or that of other types of doxastic beings, delimiting models of thought and action (Fonseca, 2020, p.52).

Eidetic agency, therefore, is necessarily related to what Brandom calls an “inferential semantics” (Brandom, 2005, p.125). This becomes a normative conception of pragmatic meaning. We act according to the set of semantic rules that are embodied in the artificial language. Representation and designation are a semantic model that should be overcome, to move to a pragmatist semantics that advocates the proposition as the minimum unit of meaning.

Eidetic agency is thus committed to a deflationism of the modern epistemic model of representation. The pretension of representation that is achieved in the human doxastic subject is an effect. What is important is the expression of sense.

Propositions can therefore refer to an intensional dimension (Searle, 1983). The propositional references of such semantic systems are counterfactuals or variables that can be saturated using the jargon of Frege (1984), a direct precursor of this conception of a pragmatic semantics. Propositional judgment, following the Fregean foundation, is an unsaturated function. To express content, a name must be part of a meaningful semantic structure or artifact. Propositions are

therefore a move within the framework of grammar or structure, that is, they are susceptible to use: “Statements in general, just like equations or inequalities or expressions in analysis, can be imagined to be Split up into two parts; one complete in itself, and others in need of supplementatio, or unsaturated” (Frege, 1984, p.146).

Concepts are, from this point of view, a particular species of functions that map true objects that fall under certain limits of the grammatical structure, or in our terms, of the eidetic artifact; for example: $(x) \geq 2$ (be greater than or equal to 2). The concept is not a mental representation, it is a meaningful semantic structure. Objects are possible truth values, that is, modalities.

In the same way, eidetic artifacts or agents constitute semantic structures, that is, grammars and, therefore, sets of epistemic normativity that promote a specific epistemic use.

Synoptically, there are a lot of examples that indicate the characteristics of the eidetic artifacts postulated here. Among them we can go from the simple scaffolding of arithmetic quantities in Roman numerals, Euclidean geometries, the Guidonian hand and the thin red line, precursor of modern musical notation systems and modern musical notation systems themselves, to milestone systems such as Boolean algebras, Frege's conceptography, set theory, predicate calculus, truth tables, natural deduction systems, semantic trees, modal logic systems, axioms of probability theory, networks Bayesian, the argumentative schemes of informal logic, causal models, ranking theory, rational decision theory, among many others (Fonseca, 2020, p.54).

All these eidetic artifacts are explicit forms of implicit practices that historically sediment in artificial languages that are objectified, that is, scaffolded in signs, and subsequently have the capacity to normatively model the epistemic processes of certain agents. From implicit practice to eidetic artifact and then from eidetic artifact to epistemic practice.

Eidetic artifacts modeled correct uses of the epistemic moves of certain doxastic subjects and are, therefore, a fundamental normative element relevant to the debate that we have developed throughout the text. The notion of eidetic agency

shows that practices can be formally modeled and that, therefore, they are relevant as an explanatory element in the sciences.

Moderately following Neurath, the formalized jargons of scientific languages, understood under the implications of this notion, show that they are equally relevant in the historical normalization of disciplines, just as they appear as means-end elements for the practices of scientific discovery and for idiosyncratic applications of disciplinary systems that do not disappear due to transformations in scientific paradigms. Eidetic agents are equally artifacts of intervention and experimentation, and not mere abstract formulations.

The development of scientific knowledge comes from the integration of epistemic artifacts in the course of the historical development of the disciplines (Guillaumin, 2008). However, although cultural and social practices, etc., promote the emergence of scientific practices, in a necessarily historical development, the normative consequences and their assimilation are inevitable. The degree of assimilation to the grammar of the discipline allows a second moment of the disciplinary normalization process in which the normalized elements become objective epistemic artifacts that bring together various components of the scientific disciplines.

Thus, specific cognitive agendas produce specific grammars that scaffold specific epistemic artifacts, namely, eidetic agents specific to equally specific disciplinary fields. The normative force of such normative artifacts depends on the degree of normalization and assimilation, evident in the degree of objectivity that is incorporated in the eidetic object.

In opposition to Guillaumin (2008), the normative force is not tacit, but fully explicit in the eidetic artifact that operates in the disciplinary field. Eidetic agency fosters a normativity based on practice, but its normative force is based on the explicit nature of the normative content.

Theoretical rationality is thus not a different and antithetical dimension of the notion of practice, it is, rather, a very idiosyncratic agential modality. This idiosyncratic character consists precisely in the material configuration of

instruments or artifacts that, beyond jargon, constitute the grammatical limits of scientific disciplines.

The formal normative elements that are scaffolded in the eidetic agents constitute models for the construction of the grammars of the disciplines and their practices. In turn, these eidetic elements are causally linked to the material artifacts that come from the practices, closing the epistemic circle (Fonseca, 2023).

A strong eidetic agency allows the formulation of objective standards (*ceteris paribus*) for action in different disciplinary fields (Fonseca, 2021, p.228). In this sense, epistemic normativity does not subscribe only to the prescriptive level of the norm as a procedural guide to epistemic practice, but, in turn, determines a set of norms constituting the structure of the discipline, that is, of its grammar. Eidetic agency constitutes, therefore, the foundations of the disciplinary system; The transformation of practice into knowledge necessarily requires the filter of eidetic artifacts.

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