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Rescuing Epistemology*

Over the last three decades, the whole project of epistemology has been subjected to criticism and change. This process has been marked, successively, by the transfer of epistemic sovereignty to the “social” domain, by the rediscovery of ontology and by attention to constitutive normativity and the political implications of knowledge. Some have even suggested that epistemology should be abandoned altogether as a philosophical project. However, this process has been offset by a proposal for a new epistemology, rooted in the experiences of the global South. This article explores the possibilities of creating a space for dialogue between the various critiques (“naturalist,” feminist, postcolonialist, epistemographic, epistopic, etc) of epistemology as a philosophical project, and Boaventura de Sousa Santos’s proposal for an epistemology of the South, taking as a starting point a review of philosophical pragmatism as the most radical form of criticism of conventional epistemology.

Keywords: Epistemology; knowledge production; philosophical pragmatism; epistemology of the South; abyssal and post-abyssal thinking.

1. Introduction

Over the last three decades, the epistemological project has been subjected to criticism and change, culminating, recently, in proposals to jettison the whole project and its claim to be able to define criteria for establishing what counts as knowledge and how it is validated. This change has successively involved the transfer of epistemic sovereignty to the domain of the “social,” the rediscovery of ontology and the interest in constitutive normativity and the political implications of knowledge.

For some, this might represent the “final crisis” of epistemology, or at least its definitive “naturalization” or “historicization,” to the extent that it would finally be stripped of its pretensions to determine what counts or does not count as knowledge and to define the criteria that distinguish truth from falsehood. However, at the same time, a constellation of positions has gradually formed that are critical of epistemology, but do not celebrate and

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promote its demise. Instead, these argue for the need for an epistemology rooted in the experiences of the global South. The most radical formulation of this proposal, and also the most consistent with an “an alternative thinking of alternatives” in this domain, can be found in the recent work of Boaventura de Sousa Santos, an author who has offered us some of the most advanced and pertinent critical reflections on the long crisis of epistemology as a normative project associated with modern science. As I shall argue here, this project goes beyond the critiques of epistemology that have opened up the route to the present “post-epistemological” intellectual climate, radically recasting the very notion of epistemology within the framework of what the author calls “post-abyssal thinking.”

In this article, I discuss, firstly, the directions taken by critiques of epistemology as a project inseparable from the historical phenomenon of modern science, which have in recent years gone as far as to postulate either the abandonment of epistemological reflection or its reconfiguration based on a debate centred on the sciences and their practices. In the second part, I suggest some possible ways of bridging the gap between these critiques and Boaventura de Sousa Santos’s proposal of an *epistemology of the South*. This involves revisiting a philosophical current that has had a decisive influence upon the different critical approaches to epistemology, sometimes explicitly, and at other times less visibly, though no less significantly. That current is pragmatism. Indeed, Santos’ proposal is quite explicitly a form of *epistemological pragmatism*, which has continuities with classical pragmatism and its offspring, while at the same time introducing important innovations.

The third part locates this proposal within the project of a more general critique of the *abyssal thinking* associated with Western modernity – and particularly its reflection on the limits of the internal critique of the project of modernity, including the central component that is science – and within the process of constructing what the same author calls *alternative thinking of alternatives*, or *non-abyssal thinking* (Santos, 2007b). Santos’s proposal is based on a positive affirmation of the great diversity of knowledges existing in the world. According to this conception, characterizing these different knowledges and defining the conditions that validate them will involve a rejection of the legislative ambitions of epistemology and of the possibility of any kind of epistemic sovereignty. The dual reference to epistemology and pragmatism, and their association with the experiences of those that are oppressed by the world in which they live, can help bridge the gap with the

critique of epistemology as a philosophical project, and at the same time create a rupture with the assumptions and conditions of that critique.

Thus, it becomes possible to “rescue” epistemology in a two-pronged operation. On the one hand, epistemology will no longer be confined to, or centred on, a reflection about scientific knowledge – even if that reflection involves a “naturalist” turn, which will make it indistinguishable from an inquiry into the practices, the production of objects and statements, and their circulation and validation, which define the modes of existence of scientific knowledge. Epistemology would now explicitly cover all forms of knowledge – and would no longer consider them only in relation to scientific knowledges – and would seek to determine the conditions for their production and validation. Those conditions necessarily imply a hierarchization, which, while incompatible with any form of epistemic sovereignty, would also reject the kind of relativism that overlooks the consequences and effects that these knowledges have upon the world, in the name of the equality of all knowledges. The epistemology of the South, as a project, means making a radical break with the modern project of epistemology while at the same time reconstructing a reflection about the various forms of knowledge. As we shall see, this enables us to recognise the limits of those critiques of epistemology that have emerged from within a framework still conditioned by modern science as a central reference for critiquing all forms of knowledge.

This essay does not propose a genealogy of that “other” pragmatism, but rather explores pragmatism as an “attractor.” In doing so, it aims to contribute to the research programme outlined by Santos from his conception of the opposition between abyssal and post-abyssal thinking, in particular when stressing the impossibility of recognising the limits of critiques of epistemology within the framework of abyssal thinking. More precisely, it seeks to identify a possible space for dialogue between the epistemology of the South and the various critiques of epistemology – “naturalist”, feminist, postcolonialist, epistemographic, epistopic and pragmatist.

2. Is epistemology soluble – in the social, in ontology, in ethics, in politics...?

Epistemology as a philosophical project is inseparable from the emergence and consolidation of modern science. If its aim was to become a theory of knowledge, it has ended up becoming a paradoxical project. On the one hand, epistemology aimed to locate a

position that was outside all forms of knowledge and knowledge-production practices, which would allow them to be evaluated independently by judging their capacity to establish distinctions between truth and error, and to define criteria for distinguishing between true and false claims. Borrowing an analogy from the philosophical reflection on power, Joseph Rouse (1996) called this position “epistemic sovereignty.” However, epistemology not only postulated epistemic sovereignty, it also took as its model one of the forms of knowledge that it proposed to assess, namely science. Epistemology was thus converted from a theory of knowledge into a theory of *scientific* knowledge. Moreover, from early on, epistemology (particularly in its conventional, empiricist, positivist or realist versions) had to come to terms with the disturbing realisation that, despite its normative pretensions, its statements were rarely invoked by scientists – except in very particular situations, usually connected to the public defence of science. Furthermore, these seemed increasingly irrelevant as a way of explaining the practices used for the production of scientific knowledge. Therefore, it is not surprising that, over the course of the 20th century, a tradition of autonomous self-scrutiny developed amongst scientists working in different disciplines, concerning their own practices and their epistemological implications.¹

But it was during the last decades of the 20th century that this “immanent” epistemology expanded, in a process that constituted the main theme of Boaventura de Sousa Santos’s 1987 work *Um discurso sobre as ciências* [A discourse on the sciences]. This phenomenon also influenced the parallel process that has come to be called the “naturalization” and “historicization” of epistemology. Its origins were based on the assumption that the conditions for knowledge production and validation could only be adequately determined from a knowledge of the practices of knowledge production and validation themselves. That process had two main aspects. The first consisted of breaking down the philosophy of science and knowledge into specialised fields, connected to specific disciplines or areas of knowledge and developed in close relationship with the practices and debates taking place in the disciplines concerned. A central criterion here for assessing philosophical statements became their compatibility with the statements produced by the respective scientific

¹ See, for example, the case of Niels Bohr, who described his reflections as “philosophy-physics.” See the discussion in Barad (2007), particularly Chapter 3.

practices. One particularly interesting example of this approach is the philosophy of biology (Callebaut, 1993).

The second aspect led to the development of sociological and historical approaches to the study of epistemological themes and concepts. "Epistemography," as this is called by the historian Peter Dear (2001), thus seeks to examine the origins and transformation of these topics and concepts, through empirically-based studies, involving their practical use in activities of scientific knowledge production and in debates and controversies through which such knowledge is validated.²

The social studies of science – both the different versions of sociology of scientific knowledge and the various currents that Peter Taylor (forthcoming) has named "heterogeneous construction" – have produced an impressive body of work over the course of almost thirty years, which provides an important empirical basis as well as relevant contributions to the "naturalized" philosophies of science. The inflection of epistemological reflection has been accompanied by the growing visibility of epistemologies qualified as "constructionist" or "constructivist," which have effectively displaced epistemic sovereignty to the domain of the social (defined in different ways by different currents). The history of the sciences inspired by the sociology of scientific knowledge has, in turn, shown the impossibility of defining criteria for the evaluation and validation of knowledge that are not anchored in particular historical situations and contexts. Concepts such as truth and error, objectivity and subjectivity, observation and experimentation, description and explanation, measurement and calculation have thus developed different meanings and usages in different contexts.

One important consequence of this kind of studies was that they demonstrated how the production of scientific knowledge involves a heterogeneous range of actors, knowledges and contexts. Moreover, constant work and effort were required to demarcate the boundary between science and its "others" (common sense, local or practical knowledge, indigenous knowledge, beliefs, including religious beliefs, philosophy and the humanities) and to institutionalize the differences between science and opinion, science and politics or science and religion (Gieryn, 1999). The demarcation of science from non-science is thus a

² Ethnomethodologists such as Michael Lynch have suggested the expression "epistopics" to refer to the study of forms of practical use or enactment of epistemological concepts and categories (Lynch, 1993, particularly ch. 7).

contingent process, and not something that is established once and for all on the basis of “sovereign” criteria.³

A significant contribution to this process has been made by feminist critics, both from within the scientific disciplines themselves and from the philosophy, history and social studies of science. Their critiques enabled certain male biases to be identified both in epistemology and in the theories and substantive knowledge produced by the different disciplines. This influence was most visible in biology and medicine, at least at first.⁴ But feminist critiques gradually grew broader in scope, both in disciplinary terms (extending to subjects such as physics, engineering, primatology and the social sciences) and as regards their reflections on the conditions for knowledge production. This resulted in the proposal of concepts such as “strong objectivity” and “standpoint epistemology” (Harding, 2004), “situated knowledge” (Haraway, 1991), “social knowledge” (Longino, 1990) and the inextricability of knowledge and normativity (Longino, 1990, 2002; Clough, 2003; Barad, 2007).

During the 1990s, a new inflection came to mark the epistemological debate, this time connected to the postulated centrality of practices in accounting for the production of knowledge. This “praxigraphic” approach (Mol, 2002) gave rise to an impressive body of research into the activities of scientists, engineers, doctors and other producers of scientific and technical knowledge, which considerably transformed the first steps taken in this direction by the so-called laboratory studies of the 1970s and ‘80s. The “praxigraphic” turn had two important consequences, which made themselves felt both in the social studies of science and in the philosophy of science. The first was related to the debate around the notion of “practice” and, in particular, its relationship with the problem of normativity of scientific activity. Following a path opened up by Stephen Turner, philosophers and social scientists examined the way in which scientific practices themselves “immanently” give rise to the norms that enable them to evaluate and validate those practices. Philosophers such as Joseph Rouse (2002) argued that scientific practices had a constitutively normative nature,

³ Throughout the 20th century, there were a number of attempts to problematise the boundaries between science and its “others.” The work of pragmatists such as John Dewey (1991a), the Polish doctor and bacteriologist Ludwik Fleck (1980), pioneer of the social studies of science, and the reflections of Niels Bohr, mentioned above, are some of the most significant contributions dating from the early decades of the 20th century to subjects that continue to be central to the debate.

⁴ See Schiebinger (1999) for a description and discussion of the relations between feminism, the sciences, epistemology and science studies. For a compilation of the most important contributions until the mid-1990s, see Keller & Longino, 1996.

with the implication that all scientific activity produces effects or consequences that make the scientist co-responsible for the difference that those practices produce in the world. Within the social studies of science, authors like Annemarie Mol and John Law coined the expression “ontological politics” to refer to this inextricability of the cognitive, material and normative implications of scientific activity, and of all forms of knowledge production in general.

This “praxigraphic” approach had two important consequences. The first was to bring the question of normativity to the centre of the debate – a subject which would be brought up again using the vocabulary of ethics and politics in many discussions that occurred in this field over the course of the last decade.⁵ The second is related to the “return” of ontology as a central concern in the reflection about science and knowledge. Rather than focusing on the conditions of knowledge production and validation, this reflection seems to be primarily oriented towards its consequences and implications, to the differences that knowledge produces in the world. This led to the suggestion that epistemological reflection should be abandoned altogether, or at least relegated to a secondary role, as proposed by the feminist philosopher Sharyn Clough (2003), for example.

More recently, authors such as Rouse and the feminist physicist Karen Barad, while reiterating many of the criticisms put forward by Clough, have sought to reconfigure the relationship between epistemology, ontology and ethics, re-launching the debate about the possibility of an “other” epistemology. Barad’s contribution is especially interesting for the way in which it recuperates and extends Nils Bohr’s philosophy-physics project as part of a “diffractive” reading of various contributions from feminism, poststructuralism and science studies.⁶ Barad’s “ethico-onto-epistem-ology” probably constitutes the most radical version of what might be described as the internal critique of the epistemological project (Barad, 2007).

The naturalism defended by Rouse (2002, 2004) is, for its part, based on two postulates, which he considers essential for any “robust” philosophical naturalism: a) that no arbitrary philosophical restrictions should be imposed upon science; b) that all explanations based on

⁵ See, for example, the debate about the “normative turn,” initiated by Collins & Evans (2002) into expertise, and Lynch & Cole (2005) into the dilemmas experienced by science studies scholars when called to intervene in an expert capacity.

⁶ Diffractive reading, originally proposed by Donna Haraway (1997), differs from reflexive reading in that it contrasts distinct interpretative positions so as to produce “differences that matter” – in the dual sense of being significant and of materially transforming the world. This reading, like any other process of knowledge production, is, in this perspective, a semiotic-material practice. For a detailed presentation and discussion of this approach, see Barad (2007) and the enlightening commentary by Rouse (2004).

supernatural or “mysterious” forces should be discarded. The second postulate makes it problematic to extend this brand of naturalism to other knowledge-production practices beyond science. The problem lies in determining what counts as “supernatural” or “mysterious” within a given mode of knowledge. If either of these qualifications are defined in the terms laid down by the sciences, then it would no longer be possible to “naturalistically” analyse practices that explicitly invoke those entities and which consider them to be crucial to their descriptions or explanations of the world. From this perspective, authors such as Bruno Latour (1991, 1996) or Isabelle Stengers (1997) go considerably further, in explicitly assuming the symmetry of different worldviews and ways of knowing, and in assuming the need to question the terms in which they define the entities and processes that exist in the world.⁷

Anyone attentive to these debates cannot fail to note the contribution made by other critical approaches to the project of epistemology, in particular those concerned with modern science as a Eurocentric project and as part of a colonial dynamic that shapes the relationship between scientific knowledge and other forms of knowledge. The works of Sandra Harding are an example of a postcolonial approach to the “internal” debate about epistemology and modern science. But even in this case, it is notoriously difficult to get outside the Eurocentric framework within which this debate has developed. For example, it may be recalled that Harding (1998) supports the use of the term “science” to describe and value other modes of knowledge that have traditionally been disqualified by modern Eurocentric science. Although this position is understandable as part of a strategy for affirming the value and dignity of other forms of knowledge, it may ultimately end up reinforcing the epistemic authority of science and furthering its reach, instead of questioning the adoption of science and scientific knowledge as a yardstick for gauging the validity and dignity of all forms of knowledge. Harding’s critique shows, therefore, the difficulty of escaping the framework that the epistemological debate has defined for the comprehension of what counts as knowledge. This whole debate, then, including the more radical proposals

⁷ This “naturalist” approach has been criticised from another perspective. For example, Steve Fuller (2000) argues that, in proposing a fragmented vision of science, it ultimately undermines the possibility of constructing forms of accountability and governance of science that are not based upon the “immanent” normativity of the various scientific practices. The project of a social epistemology, advocated by Fuller, curiously, in aiming to combat that fragmentation, ends up postulating another kind of epistemic sovereignty, based upon the political or civic control of science. Fuller’s argument nevertheless deserves to be taken seriously, since it highlights the problems associated with what has been called the governance of science.

to abandon the entire epistemological project, clearly shows the problems involved in considering knowledge and its production in terms of a diversity that has no need of a centre, constituted by science.

Might it be possible, then, to design a project that recovers the underlying concerns of epistemology without becoming a hostage to modern science (as a standard for the assessment and validation of other forms of knowledge)? Before moving on to discuss that possibility and the form it might take in the proposal for an epistemology of the South, let us make a brief incursion into a philosophical tradition which it explicitly evokes, and which has had an important influence (though not always explicitly acknowledged) upon the debates mentioned above. That tradition is pragmatism. In the next section, I shall discuss the relevance of pragmatism for epistemology and its critique.

3. Pragmatism, epistemology and epistemological pragmatism

Pragmatism has often been described as the only original form of philosophy produced in the United States, resulting from the encounter between European philosophical traditions and the particular conditions of the experience of building American society. Pragmatism was the dominant current in American philosophy from the end of the 19th century until the mid- 20th century, when it was displaced by analytic philosophy. Knowledge and science are central themes in the histories of pragmatism. The classic pragmatists – Charles Sanders Peirce, William James and John Dewey – devoted many pages to the discussion of the production and validation of knowledge, in particular, scientific knowledge. Peirce's idea of community even takes as its model the community of producers of scientific knowledge. James dealt in an original manner with the question of the diversity of modes of knowing and their relationship to experience; while Dewey was perhaps, of the pragmatist philosophers, the one that most contributed to the reflection on the social conditions of what he called *inquiry*. He meant by this the process of active engagement with the world through the construction of various forms of knowledge and experience resulting from collective activities, or, in his own words, the "ways of investigating" which give shape to a "set of intelligent strategies to solve problems," whether these be practical issues (associated with the multiple situations that arise in daily life) or theoretical (i.e. scientific problems), questions "of fact" (such as describing an

entity or process) or “of value” (what to do in a particular situation) (Dewey, 1991a). It is in Dewey that we find the most emphatic formulation of the continuity between the different modes of knowing associated with different forms of collective experience and social life.

Depending on the commentator, it is possible to read the pragmatists’ contributions to the theory of knowledge either as an “anti-epistemology” (which postulates the impossibility of approaching knowledge other than through its mutually constitutive relations with worldly experience and with the conditions of involvement with the world within communities), or as a current that proposes an original view of epistemology. The first interpretation is supported by the criticisms that Dewey levelled at epistemology at different moments of his long and productive career, from his diatribe against “that well-documented variety of intellectual tetanus called epistemology” (Dewey, 1977) to his denunciation of the “epistemological industry,” of epistemology as a speculative and self-referential activity consisting of the discussion of concepts with no reference to processes occurring in the world or to the subjects of those processes (Dewey, 1991b). The second interpretation is supported by the interest that Dewey always showed in knowledge-production processes, the relationship between knowledge and experience, and the validation of knowledge, which are at the centre of some of his most important words, culminating in *Logic: The Theory of Inquiry*, from 1938.⁸

In any case, if we accept the existence of a pragmatist epistemology, the features it displays are substantially different from those exhibited by the currents that dominated epistemology for most of the 20th century. In fact, at different moments, it led to quite opposing interpretations of the pragmatist project. The idea that all social life, including art, religion and politics, could be interpreted using a vocabulary “borrowed” from science and epistemology ultimately and paradoxically contributed to Dewey being relegated to the “wrong” side of the abyssal epistemological line by the self-proclaimed defenders of science and rationality (despite the fact that this was not his position). On the other hand, critics of the dominant currents of epistemology would sometimes accuse him of “scientism.”

⁸ For an excellent discussion of what might be involved in a pragmatist epistemology inspired by the works of Dewey, see Hickman, 2001.

Let us briefly recall some of the main tenets of pragmatist philosophy, particularly as regards knowledge (though this summary will inevitably fail to do justice to the wealth and diversity of positions):

- The *pragmatic maxim* (Peirce, 1992: 132) postulates that an object (or entity) may be defined by the sum of its effects, that is, by everything that it does, as James would say; this implies that it has no essence, and that it may be redefined as new effects become known.
- For Dewey, if a thing is what it does, then knowledge results from an experimental procedure – which he calls *inquiry* – based on what happens when we interact with objects and entities in the world – “the controlled or directed transformation of an indeterminate situation into one which is so determined in its distinctions and constitutive relations that it converts the elements of the original situation into a unified whole.” The *defined situation* that emerges from this activity is the result of an operation involving the transformation of the elements of a situation open to various interpretations, and also to various futures, creating what Dewey calls a new “universe of experience” (Dewey, 1991a: 108). The process of knowledge-production, according to Dewey, occurs through different types of collective activities, which as a whole shape what he calls “ways of investigating” or a “set of intelligent strategies to solve problems” (Dewey, 1991a, b).
- “Pragmatic,” according to the same author, means that consequences “work [...] as necessary tests of the validity of propositions as long as those consequences are instituted in an operational way and are such that they allow the specific problem that elicited those operations to be solved” (Dewey, 1991a: 4).
- The notion of *truth*, in this perspective, is associated to what Dewey defined as “warranted assertibility,” that is, with statements or claims that are justified and always open to revision (Dewey, 1991a, b).

Boaventura de Sousa Santos (1989) refers to pragmatism as one of the main inspirations behind his critique of conventional epistemology. James, Dewey and Richard Bernstein, in particular, are important references for a conception of knowledge, its production and validation which, as this author reaffirms some two decades later, privileges consequences above causes. Pragmatism continues to be an important presence in Santos’ later work,

reappearing in an explicit form in his approaches to science and “other” knowledges. But this appropriation of pragmatism undergoes several important transformations before assuming the form that it does in this work, to the extent that it is now situated in quite a different universe to what was found in 1989. It cannot be dissociated from the encounter with the experiences of the South, not due to the imposition of “imported” theoretical frameworks or epistemological criteria, but arising out of a style of research and a politically committed form of knowledge production that had its most significant expression in the project “The Reinvention of Social Emancipation.”⁹ This whole project may be read as a radical reconstruction of a pragmatism that seeks to emancipate itself from the last vestiges of the conventional epistemological project (namely, from epistemic sovereignty), by treating all the knowledges existing in the world on an equal footing, while at the same time anchoring reflection on them in their situated nature and in the local situated conditions of validity of each one, gauged on the basis of their consequences.

However, this programme has encountered some difficulties. Assessing a particular mode of knowledge by its consequences implies that there exist criteria on the basis of which that assessment may be made. An assessment is not merely a description of consequences. If we take into account the fact that the knowledge of the knowledges that we are trying to assess is itself subject to conditions that themselves have to be evaluated, it becomes imperative to define criteria and standards of evaluation to enable an account to be given to the group involved in the production or use of that knowledge, or which is affected by it, thereby avoiding relativism. Santos’ position is to take as the starting point for his conception of knowledge the experience and world of the oppressed. This position differs from that of the classical pragmatists in that it deliberately privileges knowledge assessment criteria based on the defence and promotion of life and the dignity of the oppressed. In Dewey (who, amongst the classical pragmatists, took furthest the reflection on the political implications of pragmatism), the notion of “community” was used too vaguely to enable adequate consideration of the effect of inequalities and power relations. In Santos’ perspective, the criterion for assessing a given knowledge depends upon the way in which it affects the condition of the oppressed. A pragmatic epistemology, therefore, necessarily involves recognition of the constitutive character of normativity in knowledge production and

⁹ See Santos, 2003-2005.

evaluation. It is important to remember that other authors who, like Santos, may be situated in the “constellation of liberation” (a term inspired by Adorno and borrowed here from Bernstein, 1991), assume positions that are very similar, even if they do not explicitly develop their epistemological implications – as is the case of Paulo Freire and Enrique Dussel, for example.

It is this concern that enables us to find a convergence with conceptions of epistemological criticism that seek to shed light on the constitutive dimension of normativity in scientific practices and define the inalienable responsibility of scientists or producers of knowledge as regards their effects upon the world (which, as has already been mentioned, has also been called ontological politics). The epistemology of the South, while exploring the legacy of pragmatism (with which it shares the idea of the inseparability of knowledge production and transformative intervention in the world), nevertheless differs from it in that it is explicitly and unequivocally situated on the side of the subaltern and the oppressed. Thus, notions such as “community” and “the public” acquire a more precise meaning than was given to them by pragmatists such as Dewey. There is also an emphasis upon the conflictual or agonistic aspects of active engagement with the world, which arise from the various forms of inequality and oppression and the resistance to them.

Conventional histories of pragmatism, as well as some more recent attempts at reconstructing its genealogy, have simultaneously characterised it as a reappropriation of various European philosophical traditions and the invention of an original mode of thought directed at the particular circumstances involved in the historical constitution and development of American society. Even radical interpretations, such as that of Cornel West (1989), locate the origins of pragmatism in the experience of the descendants of European colonisers, while nevertheless trying to show the important contributions made by the African-American experience or feminist criticism in its later phase.¹⁰

Scott Pratt’s recent reinterpretation of the history of pragmatism suggests a different genealogy (2002). For him, this original “American way of thinking” is much more than a

¹⁰ In discussing the convergence between pragmatism and Latin-American liberation philosophy, Enrique Dussel endorses the idea that “pragmatism is the United States’ own form of philosophy,” and that its “first antecedents” may be “traced” to 1867, following the Civil War and during the reconstruction period and the beginning of the economic and social transformation that led to the imperial expansion at the end of that century (Dussel, 1998: 237). Dussel’s argument about the convergence of the two philosophical currents may find robust support in the alternative genealogy proposed by Pratt, which will be discussed below.

fusion of the European philosophical tradition with new interpretations resulting from the particular circumstances experienced by colonizers and their descendents. Instead, he suggests that the origins of pragmatism might be found in a "logic of place," forged by the encounter between the colonisers and the native peoples of the East Coast of North America, in opposition to what Pratt calls the "colonial attitude." This "logic of place" is based upon recognition of the diversity of human communities and of their relations with the spaces in which they imprint their histories. In this process, a native concept, that of *wunnégin* (a Narragansett term which may be translated as "welcome," and which has equivalents in other native languages and cultures in the region) created the conditions for another mode of relating. This is based upon both recognition and respect for difference and upon the mutual involvement of different communities in such a way as to create peaceful forms of common life, able to encourage a "growth" in the relationships and capacities of the different communities involved. In this perspective, conflict and violence are not absent, but appear always as responses to violations of the "logic of place," such as those associated with the colonial attitude.

It is in this history and the practices associated with it that the pragmatist conception of knowledge and its production were formed. With figures such as the dissident preacher Roger Williams in the 17th century; Cadwallader Colden and Benjamin Franklin in the 18th; Lydia Maria Child and Ralph Waldo Emerson in the 19th, right up to the great classical pragmatists, and figures such as Jane Addams, W.E.B. Du Bois, Alain Locke and others, the four great principles that, according to Pratt, characterise pragmatism were defined. These are: interaction, pluralism, community and growth. Each of these principles is understood both specifically and as a concept in evolution. The principle of interaction is at the basis of the whole pragmatist conception of objects, entities and processes existing in the world, which may be adequately characterised through knowledge of their relations or interactions with others. Engaging with the world consists in the mutual involvement of these entities and plural processes, always within the framework of a community, which defines the meaning of that engagement. The way in which that engagement is assessed depends upon its contribution to the growth of the communities involved and on the members of those communities, with "growth" understood as the extension of their relations, the amplification of their capacities or improved well being. "Growth," in this sense, has a meaning close to

the individual growth of human beings, but considered within a relational perspective.¹¹ Supported by this genealogy, Pratt redefines the emergence of classical pragmatism:

In the last decade of the 19th century, Dewey, Peirce and James were able to combine the experimental and community-based science of Franklin¹², the social activism of the feminist pragmatists, and strands of European philosophy into an epistemology and ontology that begins in lived experience. In a sense, the commitments of the indigenous attitude became expressed in still another logic. Starting from the process of doubt and inquiry, in Peirce's terms, this logic joined with James's conception of a socially located self, bound by material conditions, physiology, habits and the insights of others, and then joined with Dewey's expansion of experimental logic to become the logic of cultural naturalism. In each case, the formal philosophical development was framed over an attitude inherited in part from Native American thought as it emerged along the border with European America. That indigenous attitude already expected meaning to be found in interactions against a pluralist background, framed by community, and aimed toward growth. (Pratt, 2002: 283)

This perspective may help us understand how and why pragmatism emerges as one of the most radical critiques of abyssal thinking – and of the project of epistemology in particular – and at the same time as a resource for rescuing epistemology, for its radical reconstruction as an epistemology of the South, and as part of the emergence of post-abyssal thinking.¹³

4. Rescuing epistemology

In an article that culminates with an extended critical reflection on the different forms of knowledge that coexist and/or confront each other in the world, Boaventura de Sousa Santos grounds his ambitious project of an alternative epistemology, an epistemology of the South, in the broader construction of Western or Northern thinking as *abyssal thinking*. For

¹¹ For the pragmatists, therefore, "growth" signifies something radically different from the way the term is understood in economics.

¹² Pratt suggests reanalysing the concepts and practices of experimental science in Cadwallader Colden and Benjamin Franklin which anticipate concerns expressed by the pragmatists, such as the idea that knowledge of things and their differences "consists in their different actions, or manner of acting" (Colden, qtd. by Pratt, 2002: 196). The utility of experimental science lies neither in its knowledge of causes nor in its applications, but rather in what things do (that is, how they interact) and in what can be done with that knowledge, whether it is to produce new knowledge or to apply it. As opposed to the usual interpretation of pragmatism, it is not by its utility or application that knowledge is evaluated, but rather by what can be done with it in the future.

¹³ Classic pragmatism has given rise to different currents, throughout the 20th century, often with very different orientations. Richard Rorty's neopragmatism has possibly been the most visible of these currents. However, the vitality of pragmatism, and in particular its ability to change through dialogue and relations with other philosophical and scientific currents and social movements, may be better appreciated through the contributions included in collective works such as Hollinger & Depew (1995), Hickman (1998), Dickstein (1998), Haskins & Seiple (1999), Seigfried (2002), Shusterman (2004), Karsenti & Quéré (2004), and Debaise (2007). See also the important essay by West (1989) and his suggestion for a "prophetic pragmatism" and the remarkable reinterpretation of Dewey's thought by Rogers (2009).

anyone who has closely followed the epistemological debates described in the first part of this article, this proposal may cause some perplexity. If epistemology as a philosophical project is inseparable from modern science, and the justification and legitimation of science's epistemic authority always lay at its core, then is it even possible to conceive of an epistemology that is not organised around science as a standard for all knowledge?

Although it is not possible to reconstruct the whole genealogy of Santos's proposal in this article – that will have to be left to another occasion – it is important to offer a brief, and necessarily simplified account of how one can move from a critique of epistemology (a concern that has been present in Santos's work for the last 30 years) to the challenge of an epistemology of the South, which, in more recent works, has been grounded in the opposition between abyssal and post-abyssal thinking. In this perspective, science and epistemology do not disappear from the framework of post-abyssal thinking, but instead are configured differently in terms of what Santos calls the "ecology of knowledges."

Santos's contributions to the epistemological debate of the North (Santos, 1987, 1989, 2000, 2003, 2007a, 2007b; Nunes, 2003, 2007) are characterised by the identification of a cluster of processes and manifestations of crisis which are interpreted within the framework of a more general crisis in the project of modernity. The adjective "postmodern" has thus been used at various moments as a form of shorthand for describing a process of transformation that has challenged the project of modern science and its viability. In these contributions, the reflection centred upon the internal dynamics of the sciences and upon what the author would come to describe as manifestations of their internal pluralism. The crisis of conventional epistemologies was approached from a reflection that continued to take the sciences as its main centre, but with one difference: it sought to explore ways of relating the sciences to other kinds of knowledge and experience.

The transition from this reflection to another framework became possible with the growing involvement of the author with the experiences of the South. This raised questions about the relevance of Northern knowledge for dealing with a world that is more than the West, and with an understanding of the world that is not exhausted in the West's comprehension of it, as Santos has affirmed. This transition has been described in various ways by Santos, but it is particularly well summarized in the title of one of his works: "From the postmodern to the postcolonial and beyond" (Santos, 2006). More recently, it has been

within the opposition between abyssal thinking, associated with modernity, and a post-abyssal thinking associated with an ecology of knowledges, that the epistemological dimension of the work of constructing an “alternative thinking of alternatives” has led to the formulation of the first outline of what could be a systematic programme of research into epistemological questions raised by the period of transition in which we live (Santos, 2007b). A crucial part of this programme would be, precisely, the questioning and redefinition of the criteria and procedures that enable us to establish what counts as knowledge. In this regard, Santos formulates three broad groups of questions, which are worth recalling:

[1] From what perspective can the different knowledges be identified? How can scientific knowledge be distinguished from non-scientific knowledge? How can we distinguish between the various non-scientific knowledges? How can we distinguish non-Western knowledge from Western knowledge? If there are various Western knowledges and various non-Western knowledges, how do we distinguish between them? What do hybrid knowledges, mixing Western and non-Western components, look like?

[2] [...] What types of relationships are possible between the different knowledges? How can we distinguish between incommensurability, incompatibility, contradiction, and complementarity? Where does the will to translate come from? Who are the translators? How should we choose translation partners and issues? How can we form shared decisions and distinguish them from imposed ones? How can we make sure that intercultural translation does not become the newest version of abyssal thinking, a soft version of imperialism and colonialism?

[3] [...] How can we identify the perspective of the oppressed in real-world interventions or in any resistance to them? How can we translate this perspective into knowledge practices? In the search for alternatives to domination and oppression, how can we distinguish between alternatives to the system of oppression and domination and alternatives within the system or, more specifically, how do we distinguish between alternatives to capitalism and alternatives within capitalism? (Santos, 2007b: 33)

The path indicated by these questions starts from two postulates which at first sight (and in accordance with the criteria used by dominant currents in modern epistemology) seem incompatible. The first is the recognition of the dignity and validity of all forms of knowledge. The second is the rejection of relativism (i.e. the idea that all kinds of knowledge are equivalent). Boaventura de Sousa Santos’s position is to consider that acceptance of the first postulate in fact implies acceptance of the second. Recognising the validity and dignity of all knowledges implies that no knowledge may be disqualified before being put to the test, as regards its pertinence and validity in situated conditions. Conversely, no form of knowledge may be granted the privilege of being considered more adequate or valid than others without also being subjected to those situated conditions and being assessed for its

consequences and effects. No knowledge may thus be elevated to the status of a standard from which the validity of other knowledges is gauged, without considering the situated conditions of its production and mobilization and their consequences. The operations of validating knowledges thus arise from the situated consideration of the relationship between them, configuring an *ecology of knowledges*. Since “the ecology of knowledges does not conceive knowledges in the abstract, but rather as knowledge practices that enable or impede certain interventions in the real world,” Santos describes his position as a form of *epistemological pragmatics*, “justified [above all] because the life experiences of the oppressed only appear intelligible to them through an epistemology of consequences,” and these “always come before causes” in the world in which they live (Santos, 2007b: 28).¹⁴

The project of an epistemology of the South is inseparable from a historical context in which new historical actors are emerging with particular visibility and vigour in the global South, collective subjects of other forms of knowledge, which from the perspective of the Western epistemological canon, have been ignored, silenced, marginalised, disqualified or simply eliminated, victims of epistemicide so often perpetrated in the name of Reason, Enlightenment and Progress. In this perspective, what counts as knowledge is much more than what is admitted by conventional epistemology – and its critique, even when “naturalist.” The recognition of the diversity of forms of knowledge – a diversity whose limits are impossible to establish prior to an active engagement with them – forces us to redefine the conditions of the emergence, development and validity of each of them, including modern science, which itself becomes the object of a situated assessment that requires a radical “symmetrization” of all knowledges. The criteria that allow us to determine the validity of these different knowledges will no longer refer to a single standard – scientific knowledge – but will instead become inseparable from the assessment of the consequences of these different knowledges in their relation with the situations in which they are produced, appropriated or mobilised. The difference between this position and “naturalist” epistemologies lies in the amplification and transformation of a central idea: that is to say, if knowledges can only be understood and assessed when they are approached as practices,

¹⁴ Elsewhere in the same article, Santos suggests that, in the transition period we are now going through, there is a need for a “negative or residual epistemology,” or “a general epistemology of the impossibility of a general epistemology” (Santos, 2007b: 24). The epistemology of the South, as epistemological pragmatics, will therefore be the form that this transitional epistemology will take.

then it is difficult to justify the exclusion of certain practices that postulate recourse to explanations or interpretations based on entities and processes that are rejected or ignored by one particular form of knowledge – modern science. This is the case, for example, of the reference to supernatural entities or forces, which cannot be described or explained within the rationalist cosmology of modern science, but which are crucial for explanations of the world, things and beings that have been formulated in the context of other cosmologies and forms of active engagement with the world. If the demonstration of the truth of a statement or the effectiveness of an action lies in its consequences, then it makes no sense to postulate the exclusion *ex ante* of certain forms of description or explanation as false or irrational.

The emergence of the project for an epistemology of the South should be understood as part of a history and a trajectory that began with a critical engagement in the dominant epistemologies associated with the modern sciences, involving various tensions, debates and proposals for innovation that converged onto what Santos has called the internal critique of science. At a second stage, this critique of the sciences moved onto a different level, namely a critique based on knowledges and practices that the dominant epistemology characterises as non-scientific, or to which it denies any cognitive value. At this second stage, it was the conception itself of epistemology that was called into question, as a normative discourse about the sciences and a site for the formulation of an epistemic sovereignty that issues judgements about what may or may not be considered knowledge. The consequence of this step is apparently paradoxical. If epistemology is a hegemonic project, involving the imposition of an epistemic sovereignty, inseparable from modern science, how should we understand an alternative project that takes up the very idea of epistemology in order to positively characterise the diversity of forms of knowledge existing in the world and the conditions of their validity?

In a recent text, Santos provides two keys to unlock this apparent paradox. The first is the definition of the epistemology of the South as a general epistemology of the impossibility of a general epistemology. This conception is incompatible with an epistemology that postulates epistemic sovereignty, attributing to one form of knowledge the power to define the existence and validity of all other forms of knowledge. The second is the formulation of a research programme that involves re-examining the dominant epistemology from new perspectives anchored in historical and emerging experiences of the South. Following a

route opened up by Santos himself in previous works, these could be the starting points for an active critical engagement with the versions of Northern epistemology that have furthered the critique of the dominant epistemology, and that can better head a dialogue whose goal is the decolonization of epistemological reflection. The conditions of viability of this dialogue, however, are still far from being in place. What separates the epistemological critique produced in the North from the epistemology of the South is rooted in a broader opposition between an *abyssal thinking* associated with the project of modernity and a diversity of ways of thinking that point towards the emergence of a *post-abyssal thinking*.

As regards epistemology, abyssal thinking is grounded in what Santos calls the *abyssal epistemological line*. The line has both an internal and an external aspect. With the former, all claims to knowledge which are not recognised as such by the established forms of epistemic sovereignty are summarily lumped together on the side of non-science as vehicles of error or ignorance, mere belief or forms of superstition. The second aspect amplifies their disqualification, either by appropriating some of those knowledges, while conditioning their validation in the court of epistemic sovereignty or the particular sovereignties of different fields of certified knowledge (see, for example, the transformation of local knowledges on biodiversity into “ethnoscience”), or by eliminating them or their subjects through different forms of epistemicide – from evangelization and schooling to genocide or environmental destruction. The transformation of know-how and knowledge into something that can be the object of private appropriation, separate from those that produce it, transported, purchased and sold, subject to forms of ownership that are alien to the context in which that knowledge was produced and collectively appropriated, in fact corresponds to an obscurantist elimination of knowledges and experiences in the name of rationalisation and subordination to epistemological canons associated with modern science. That result may be obtained through two routes: the route of physical, material, cultural and human destruction, or by incorporation, cooptation or assimilation (Santos, 2007b: 9).

Given this panorama, to what extent is it possible to nourish the hope of constructive dialogue between the “immanent” forms of epistemological critique that have characterised the debate of the North and the epistemology of the South, at present under construction?

While “naturalist” and feminist critiques and more recent approaches from social studies of science have sought to shed light on the constitutive relationship between the

epistemological, the ontological and the ethico-normative dimensions of modern scientific-technological knowledge, it is unclear what their position is in relation to "other" non-scientific forms of knowledge and the conditions of their validation. It is true that what feminist criticism has named "situated knowledges" or "standpoint epistemologies" takes into account the different configurations of knowledge that are activated by specific actors, incorporating collective histories or experiences in particular circumstances or situations. But the validation of those other knowledges, as suggested by the works of Harding, seems to involve inclusion into an enlarged repertoire of "sciences" or scientific knowledges, as if that recognition were necessary, under the terms of the hegemonic forms of knowledge, for dialogue between different kinds of knowledge to become, if not possible, at least productive.

Given these positions, it would be legitimate to ask if the same might not be said about the use of the term "epistemology" to speak of the conditions of production, appropriation and validation of different forms of knowledge. The problem only arises when we use expressions like "science" and "epistemology" (or "philosophy" or "literature" or "economics" or "politics" or "religion") in the "categorical" way particular to abyssal thinking.¹⁵ If we move from this to a constellation of post-abyssal thinking, the terms are reappropriated in different frames of meaning and different contexts of practice. As it is not possible, at least in the present transitional phase, to simply eliminate the old terms and replace them with radically new ones, all conceptual or categorial innovation will necessarily entail a process of reappropriation and transformation.

But for this reason, it becomes even more important to closely examine the transformations that these terms will go through in that process, and what they will come to mean under the new conditions of use. One of the implications of that reappropriation of the concept of epistemology is the fact that it is tightly bound, anchored and rooted in historical experiences that situate its protagonists and which enable that project to be bound to a broader "constellation of liberation." The epistemology of the South thus appears as a radical refounding of the relationship between the epistemological, the ontological and the ethico-political, based upon a reflection that is not centred on science but on practices, experiences and knowledges that define the limits and the conditions in

¹⁵ The notion of "categorical" thinking is borrowed from Hugo Zemelman. See, in particular, the discussion in Zemelman, 2005: 68-72.

which a particular mode of knowledge may be “translated” or appropriated under new circumstances, without aiming to establish itself as a universal knowledge. If all knowledges were recognised, the validity of each would depend upon the way it were bound to the situated pragmatic conditions of its production and appropriation. The hierarchies of knowledges cannot be defined on the basis of the epistemic sovereignty of one mode of knowledge or one “external” locus of knowledge, but rather in a pragmatic manner, that is to say, inseparable from the situated practices of knowledge production. This is the type of relationship that Santos calls the “ecology of knowledges”:

The ecology of knowledges does not conceive of knowledges in the abstract, but rather as knowledge practices that enable or impede certain interventions in the real world; it no longer conceives of science as a reference or compulsory point of passage for the recognition of all knowledges. Thus, it is the conception of epistemology itself that is radically transformed. An epistemological pragmatics is, above all, justified by the fact that the life experiences of the oppressed only appear intelligible to them through an epistemology of consequences. In the world in which they live, consequences always come before causes. (Santos, 2007b: 28)

If the epistemology of the South is characterised by an epistemological pragmatism that privileges consequences above causes, might we not find here a point of convergence with the epistem-onto-ethical concerns of “naturalist” and feminist critiques of epistemology? The influence – not always acknowledged, but nonetheless present – of philosophical pragmatism in these critiques at least enables us to establish a possible starting point for an exercise in translation that may help identify common concerns, as well as divergent conceptions that engage the two fields in dialogue.

5. Conclusion

To conclude, let us return to the proposal mentioned above according to which Boaventura de Sousa Santos seeks to give shape to the task of the “epistemological construction of an ecology of knowledges” (Santos, 2007b: 33). The author identifies “three main groups of questions related to the identification of knowledges, the procedures that enable us to relate them to each other and to nature, and the assessment of the interventions in the real world that they enable” (*ibid*). In relation to the first group, it is claimed that the questions raised “have been ignored by the epistemologies of the global North” (*ibid*). In fact, the claim is true also for the other two groups. As a philosophical project, the epistemology of the North, as was recalled in Section 2, always had as its goal the identification of a particular

form of knowledge, scientific knowledge, and the criteria that enabled science to be demarcated from other modes of knowledge. Indeed, it is the attribution of the quality of “knowledge” to a mode of involvement or relationship with the world that constitutes the ultimate objective of epistemology. Hence, the questions posed by Santos are relevant to epistemology only insofar as they enable the work of demarcation, which attributes epistemological privilege to science, defining it as the mode of producing true knowledge about the world – and thus the interest in other modes of knowledge only as “others” of science, unable to establish the distinction between truth and error. A programme such as this is incapable of recognising other modes of knowing, other than to subject them to a form of epistemic sovereignty that takes science as a model for all true methods of knowing.

This observation suggests the need for a new use of the word “epistemology,” which would come to mean, not an alternative philosophical programme, but what Santos calls an alternative programme of alternatives, setting the notion of ecology of knowledges against all forms of epistemic sovereignty. Here we come up against the well-known problem of having to use the conceptual and theoretical tools of Northern thinking in a subversive way. As Santos asks (2007b: 33), “how can we fight against the abyssal lines using conceptual and political tools that do not reproduce them?” The response has to be pragmatic. In using the expression “epistemology of the South,” we are using it within a framework that is different from the familiar framework in which we usually understand epistemology, one that is nonetheless suitable for the new questions that cannot be formulated within what Santos has called abyssal thinking.

The (explicit) connection of the proposal for an epistemology of the South and its corollary, the conception of the universe of knowledge as an ecology, to a *pragmatist* conception of knowledges and of the ways in which they are produced, validated, circulated, appropriated, shared and evaluated, also enables us to highlight the relevance of an alternative thinking of epistemological alternatives, and find convergences that make possible a productive dialogue with the most recent innovative epistemological critiques, such as those that have appeared in connection with the social studies of science, feminist and postcolonial studies and the “naturalist” philosophy of the sciences.

The pragmatism advocated by Santos, however, despite its apparent kinship with the philosophical current of the same name, is in fact a radical reconstruction that results from

the encounter between the experiences of subaltern populations, groups and collectives, particularly in the global South, and the act of putting the proposals of pragmatist philosophers such as William James and John Dewey “to work” for the critique of conventional epistemologies. It is in the explicit reference to the world and experiences of the oppressed as a place of departure and arrival for another conception of what counts as knowledge, that the epistemology of the South confronts pragmatism with its limits. Those limits are the limits of the critique of epistemology within the framework of abyssal thinking.

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