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On the possibility of a realist pedagogical constructivism

Posibilidad de un constructivismo pedagógico realista

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Abstract

The discussion about the ability of our intelligence to access reality in itself remains as one of the oldest and most exciting questions in philosophy. Piaget reinvented the history of psychology and pedagogy from his scientific discoveries regarding the understanding of the process of knowledge. However, due to his own philosophical inclination, his pedagogical constructivism remained strongly rooted in an immanentist philosophical tradition, to such an extent that the association between pedagogical constructivism and anti-realism constitutes a kind of commonplace and a certain dogmatic assumption. This paper states that this association is not the only possible alternative and that, to a certain extent, it does not even seem to fully respond to the ultimate principles or consequences of Piaget's constructivist findings. It is possible to justify pedagogical constructivism from realistic positions, as long as we reconsider some assumptions that modernity has installed in educational and philosophical circles in an uncritical way. The revision of the notion of representation, conceived according to the Aristotelian tradition and updated by the contributions of constructivism, allows to find a pathway of reconciliation between pedagogical constructivism and a kind of realism that be, in the words of Charles Taylor, at the same time robust and plural.

Keywords

Constructivism, realism, representation, inmanentism, Piaget, epistemic tresspassing.

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Resumen

La discusión acerca de la capacidad de nuestra inteligencia para acceder al conocimiento de la realidad en sí es y sigue siendo una de las más antiguas y apasionantes de la filosofía. Piaget revolucionó la historia de la psicología y la pedagogía a partir de sus descubrimientos científicos relativos al modo en que el ser humano conoce. Sin embargo, por su misma inclinación filosófica, su constructivismo pedagógico quedó fuertemente arraigado en tradiciones filosóficas inmanentistas, a punto tal que la asociación entre constructivismo pedagógico y antirrealismo constituye una suerte de lugar común y un cierto presupuesto dogmático. Este trabajo intentará demostrar que esta asociación no constituye la única alternativa posible y que, hasta cierto punto, ni siquiera parece responder cabalmente a los principios o consecuencias últimas de los hallazgos del constructivismo de Piaget. Es posible justificar el constructivismo pedagógico desde posiciones realistas, siempre y cuando se revisen algunos supuestos que la modernidad ha instalado de manera no muy crítica en los círculos educativos y filosóficos. La revisión de la noción de representación, concebida según la tradición aristotélica y *aggiornada* por los aportes del constructivismo, permite abrir un camino de conciliación entre el constructivismo pedagógico y un tipo de realismo que sea, como sugiere Charles Taylor, a la vez robusto y plural.

Palabras clave

Constructivismo, realismo, representación, inmanentismo, Piaget, intrusión epistémica.

Introduction

The association between pedagogical constructivism and philosophical immanentism constitutes a kind of common place in the philosophy of education. This is mostly explained by the strong incidence of one of its main referents, Jean Piaget. This author did not hesitate to explicitly associate his intuitions with those of the Kantian tradition, although with certain objections. From then until today, those who work in pedagogy or teacher training often feel compelled to choose one of the following alternatives: either to adhere to anti-realism by finding reasonableness in constructivist pedagogical approaches, or to reject all or part of pedagogical constructivism in defense of realism. The research problem addressed in this paper has to do precisely with the analysis of Piaget's position in this matter. The objective is to demonstrate that the disjunctive pedagogical vs. realism constructivism is false and is installed in the framework of misinterpretations generated in modernity that still retain much of its persuasive force. Since this is a philosophical article, the methodology used is hermeneutic, based on the analysis of Piaget's texts, along with texts of other authors specialized in the subject.

The article begins with a synthetic review that explained the transition from the philosophical realism of classical Greek antiquity to the immanentism of modernity, which configure the context on which Piaget's ideas are based. Its constructivist position is functional to its defense of

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Genetic Epistemology based on the rejection of the validity of philosophy itself for the foundation of the scientific task and is constituted on a certain request of positivist principle. This premise, along with the rejection of realism (conceived according to a somewhat naive representational interpretation), contributes to consolidating the dichotomy between pedagogical constructivism and realism that extends to the present day.

The article recovers some exchanges between Charles Taylor and Richard Rorty through which a version of realism is visualized, which is coherent and consistent with the main theses of pedagogical constructivism. Indeed, this version of realism is very similar to Piagetian main intuitions, an aspect that will be evident when identifying the receptive and constructive aspects that configure the philosophical notion of "representation".

From Realism to Anti-Realism: Three Fundamental Milestones

The discussion about the ability of our intelligence to access the knowledge of reality itself is, and remains, one of the oldest and most exciting in philosophy. Plato in his dialogue *Cratylus*, puts on Socrates a dilemma that crosses the discussions of Western philosophy from the Greeks to the present day. The dialectic between *realism* and *anti-realism* or *immanentism* philosophical is stated in these terms:

> Let us see, then, Hermogenes, if it also seems to you that this is the case with beings: that their essence is different for each individual as Protagoras maintained by saying that man is the measure of all things (in the sense, no doubt, that as things seem to me, so they are to me, and as they seem to you, so they are to you), or if you believe that beings have a certain consistency in their own essence (385e-386a).

Plato's philosophical realism defends the consistency of reality and the need for our knowledge to be configured as a response to the intelligibility of the world. Not so for Protagoras, his antagonist, for whom the truth about reality is the result of a linguistic construction.

Aristotle separates himself from his master in many ways, but recognizes the human capacity to access knowledge of things themselves. He attributes to the senses this effective ability to penetrate the intelligibility of the world: "The perception of one's own senses is always true and occurs in all animals" (Aristotle, 1978, p. 134 [427b]). For this thinker, the external senses do not fail in their apprehension of the world unless there is an organic injury.

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The Thomist tradition recovers the Greek realist heritage in the famous conception of truth as *adequatio*. It is true that judgment unites or separates in the mind which is united or separated in reality. Therefore, there is a truth in things (called the *ontological truth*) and a truth in the intellect (called the *logical truth*). Ontological truth refers to the intelligibility of things themselves, that by which they are knowable (Pieper, 1997, p. 29). To the extent that this intelligibility present in things formally impacts our senses and intellect (through sensible or intellectual intuition); we possess a *logical truth*, which is the one that is forged in our intelligence when we apprehend sensitive and intellectual forms. In this way, correspondence is achieved between what we conceive subjectively and what happens.

It is important to note that the scholastic tradition does not interpret the aforementioned correspondence in terms of the construction of a *tertium quid,* an intra-mental representation that attempts to copy the extra-mental. Based on Aristotelian notions of act and power, and form and matter, it formulates a theory of knowledge in which a continuity between subject and object of knowledge is verified. Because cognitive powers are intentional, they are constitutively receptive and naturally oriented toward objects that transcend them. The formality (substantial or accidental) present in things, being a current principle, exerts efficient causality on the receptivity of the powers of the subject and "informs" them. To some extent, things become immaterially present to sensibility and intelligence. That is why John of St. Thomas, disciple of the aquinate, says that "to know is to become the other" (*fieri aliud in quantum aliud*). This is a brief synthesis of the dominant peripatetic realism in the premodern Western period.

The abandonment of Aristotelian categories required modernity to rethink the theory of knowledge. There are three milestones that changed this understanding. The first milestone concerns a tendency that some critics of modernity call *foundationalism* (Wittgenstein, 1995, pp. 1-2). Foundations hold *up* the idea that "knowledge of the conclusion of syllogism requires knowledge of premises, so that if these require indefinitely others to be known, then demonstrative knowledge is impossible. Therefore, there must be proposals that we know, not by inference from others, but by themselves" (Garber, 2007, p. 9). This abstract notion of foundationalism can be difficult to grasp. In Descartes, however, it is easily verified. Not satisfied with the possibility of founding knowledge on sensory data, he turned the evidence of the thinking self (*cogito ergo sum*), the cornerstone of the system. His main objective was to build knowledge

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from clear and distinct ideas conceived and displayed in the mathematical way, i.e., as apodictical certainties resulting from an irrefutable deduction. Foundations *originate* from this pressing need for irrefutable foundational knowledge.

In modernity, this *foundationalist* aspiration is directly related to a certain conception of objectivity. The *objective* is that which conforms to the mathematical standards of certainty and evidence, which by their very nature are universal and universally applicable. Thus, the objective of modernity seeks to dispense with any individual or social subjective condition and adopts a "perspective of the unconnected observer" (Taylor, 1985, p. 280); it aims to develop a "look from nowhere" (Nagel, 1996, p. 19).

The second milestone concerns the emergence of the notion of truth as correspondence or as a "copy", typical of some empiricist conceptions. Once abandoned the Aristotelian theory of forms, modern philosophy is not able to sustain a conception of truth as *adequatio* based on the intentional presence of the object of knowledge in the subject. Knowledge is conceived, therefore, as a constructive process of an intra-mental copy that pretends to be faithful to what it represents. This *representational* or *mediational conception*, once configured, meets the immediate problem of its justification: how can we prove that the representation faithfully reproduces the external reality? We would need a cognitive within the cognitive that ensures correspondence and, thus, another necessity that would extend to infinity, what has been called "homunculus fallacy" (Llano, 1999). The problem does not only concern modern versions of representationalism. Bernache (2021, p. 268) clearly illustrates the variety of difficulties faced by the contemporary Representational Theory of Mind when it tries to sustain the explanatory function attributed to it by its supporters.

Kant's philosophy synthesizes the efforts to uphold the ideal of universally valid certainty proper to modernity with the tradition of *representational* truth of empiricism. At the same time, as a third milestone, an explicit recognition of the subjective conditions that operate in the very configuration of human knowledge is incorporated. For Kant, knowledge is precisely human since the conditions of subjectivity are part of the way in which internal representation is constructed. Therefore, this representation is not considered or intended to be considered a faithful copy of the extra-mental reality. The construction of the knowledge of the world carries with it the structuring scaffolding of our own categories. In this way, subject and object are co-configured in a symbiotic way. In this regard, Ortiz (2012) states that "the observer and what he sees is determined by his own functioning and by the perspective from which he looks at the phenomenon" (p. 112).

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We have a top and a bottom, we conceive the world according to the vertical orientation of our corporeality. Our very size constitutes the threshold of possibility of access to a given world, while hiding other possible worlds.

Likewise, our perception of the temporality of objects brings with it the temporal constitution of subjectivity. If our life were to last a second and, for humanity as a whole, a few hours, the scope of knowledge of what we call the world would be limited by this time horizon. Space and time are conditions of our subjectivity and not intrinsic properties of objects, Kant says. Hence, the need to distinguish between the phenomenon (the intra-mental construction) and the number (the thing itself).

This synthetic compilation allows us to understand the mutation that philosophy experienced from its origins to modernity, and to understand the reasons why the disjunction between realism and anti-realism became so strong. This dilemma is still valid today and is applied in the most diverse fields of knowledge. As far as the pedagogical domain is concerned, there are many who identify Piaget's thought with anti-realism, since he conceives our understanding of the world more as the result of a construction than of an iconic reproduction. Pedagogical constructivism is conceived by some authors as the only reasonable alternative to a naive realism, which simply identifies the premises of classical Aristotelianism with the modern *representational* model:

> While the traditional conception of knowledge and the traditional cognitive theories consider that there is an almost iconic correspondence between knowledge and the reality responsible for the data we perceive, cognitive constructivism starts from a different principle. Knowledge is not the computation of a reality, but rather the computation of the descriptions of a reality (Alcalá, 2016, p. 21).

In this way, the realism-anti-realism disjunctive is understood, in the pedagogical field, as a representationalism-constructivism dichotomy. Representationalism is referred to by some authors as a "correspondent theory of truth", a category under which the positions of Aristotle, Thomas Aquinas, Locke or Hume (Islas Mondragón, 2022, p. 71) are identified, even though they differ widely. This identification of realism with representationalist theory configures a kind of irrefutable postulate that leads to an induced anti-realism. Anyone who finds reasonableness in Piaget's intuitions will feel obliged to affiliate to philosophical immanentism to recognize the evolutionary and configurative dynamism of our cognitive structures. Some defenders of realism (fundamentally, of Thomistic inspiration)

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are quick to denounce constructivism, even though they are acknowledged with valuable contributions or intuitions (Barrio Maestre, 2000).

In the following paragraphs we will try to demonstrate that this dichotomous vision (realism vs. pedagogical constructivism) constitutes a false alternative rooted in two different and complementary misunderstandings. On the one hand, to confuse the epistemic level of pedagogy with that of metaphysics. On the other hand, it is to sustain and perpetuate the naive image of representationalist realism that is inherited from modern empiricism. The next section will analyze the first of the equivocations.

Abstraction levels and their application to the case of pedagogical constructivism

In order to understand this equivocation, it is necessary to recover some basic notions of Aristotelian logic related to the degrees of abstraction, which the peripatetic philosopher tests in his *Metaphysics* to illustrate the different levels that compose speculative knowledge. According to Aristotle (1985, p. 1076 [1026a20-1026a36]), physical abstraction dispenses with the features of a subject to analyze the common aspects of his species. So, for example, biology studies frogs without being interested in this particular frog. Mathematical abstraction, on the other hand, dispenses with the attributes of the species to focus its analysis on the quantitative dimension in which they share diversity of species. It does not matter in this case whether they are frogs or horses but the quantities associated. Finally, the metaphysical abstraction (considered by some scholastics as *separative*) even dispenses with the quantitative dimension by concentrating its attention on the quality of "entity" of objects. While Gnoseology studies the "entity of reason", Aristotelian tradition considers it a part of metaphysics. The later philosophical tradition places epistemology within gnoseology, i.e., bordering on metaphysics.

The three degrees of abstraction constitute three great epistemic levels in the peripatetic tradition. The contemporary advance of the specialization and multiplication of the particular sciences turned this distinction into a somewhat vague, general and unfunctional principle. It was necessary to distinguish new classification criteria within each of these major levels to account for the diversity of existing disciplines and subdisciplines, as well as their specific objects and methods. But the distinction of degrees, while excessively general, remains useful in safeguarding the inherent specificity of each of the epistemic levels.

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The study of human knowledge admits an approach from the first level of abstraction, as well as from the third. In the first level, there are particular sciences that study partial and phenomenological aspects of the cognitive process (neurology, psychology, pedagogy, etc.). At this level, and according to the object of study and method of each discipline, it is inquired about the way in which the human subject learns, about the biological organs that act in the contest of knowledge, about the incidence of emotions in knowledge, about the place that cognitive structures occupy in the cognitive process, their evolution and their relationship with the environment, among many other issues. On the metaphysical level, however, it reflects on the nature of knowledge considered in itself and in its relationship with the world and language.

There is a direct and natural link between the various levels. However, as Ballantyne (2019) says, it is necessary to be aware of the risk of epistemic tresspasing. This occurs when "experts" jump an obvious visible boundary into a domain for which they lack relevant evidence or the ability to interpret that evidence appropriately. But they still speak" (Ballantyne, 2019, p. 369). The problem arises particularly with what the author calls *hybridized questions* that emerge in those border questions whose answer requires interdisciplinarity.

In the case of the discussion of human knowledge, Gilson traces the first symptoms of epistemic intrusion in medieval times. His analysis goes back to Abelard, a medieval monk who studied human knowledge and logic:

> The subject was essentially philosophical, because it is one of the fundamental problems that the human mind encounters as it attempts to understand beyond all the particular sciences the conditions that make possible knowledge itself. But unfortunately, when the scientist rises to a problem like this, the ordinary thing is that he does not come to realize that he belongs to an order of non-scientific issues. The best that can happen is that he wants to dismiss it as a futile issue, not amenable to a positive response. However, in some cases it has been tried with more or less success to treat it scientifically, as if it were a scientific problem. After all, nothing more natural. Because problems of this kind arise at the frontier of some particular science, it is not easy to distinguish them from the science that is, in fact, their origin. And the scientist, not fully realizing that what he sees are mere reflections of problems that lie beyond, and thinks, naturally, that he is simply taking the study of his particular science to its ultimate implications (Gilson, 1973, p. 16).

Abelardo's problem is also—in a way—the problem of pedagogical constructivism. When inquiring about the way in which it is known, it is

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natural for the teacher to try to configure a philosophical answer related to the question of knowledge itself and the possibility of accessing the truth. This inclination represents an epistemic intrusion. However, philosophical research should not be considered an undesirable risk, much less in this context that especially values discussion and inter and transdisciplinary learning. This intrusion should not be fought with confinement to non-hybrid intra-disciplinary questions, but with what Ballantyne calls "defenses against epistemic intrusion" (2019, p. 376).

In other words, it is not a question of teachers avoiding metaphysical questions, but of having a warning of the epistemic leap of this inquiry, and of having evidence and capacities typical to this domain of knowledge. The problem arises when answers are formulated to metaphysical questions (epistemic grade 3) by appealing to the knowledge of the particular science (epistemic level 1), or vice versa. Given the need to distinguish and respect epistemic levels, it is necessary to ask if Piaget fell into an epistemic intrusion when trying to answer the philosophical question "what is human knowledge?" by appealing to discoveries of the pedagogical discipline.

Does Piaget fall into an epistemic intrusion?

The question of whether Piaget falls into epistemic intrusion is both simple and complex to solve. Firstly, it is simple because Piaget had philosophical training, acquired philosophical skills, discussed with philosophers of his time, and expressed philosophical formulations or considerations. In one of his last books, *Wisdom and Illusions of Philosophy*, published in 1965, he presents an autobiographical reproduction in which he summarizes his curious path and his assessment of philosophical knowledge.

This is not the moment to go deeper into his disappointment with philosophy and the reasons for this disenchantment. What is evident from the reading of his memoirs is that his approaches of metaphysical level are not done inadvertently, but with full consciousness. In fact, Piaget makes explicit his commitment to Kantism in various paragraphs of his *Six Studies of Psychology* (Piaget, 1954, pp. 69-70). His affiliation is not, however, devotion:

> One can feel very close to the spirit of Kantism (and I think so as many supporters of the dialectical method) and consider the *a priori* as dissociable from the notions of chronological or level precedence (...) The epistemic subject's own construction, so rich from the Kantian perspec-

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> tive, is still too poor, since it is entirely given from the beginning, while a dialectical constructivism - such as the history of science and experimental facts, gathered by studies on mental development, seems to show in its living reality - allows attributing to the epistemic subject a much more fruitful constructivity, although it leads to the same characters of need and rational structure action of the experience of those whose guarantee Kant asked to his notion of *a priori* (p. 71).

Piaget therefore leans towards a constructivism that is founded on a *dynamic*, dialectical, genetic *Kantism*; one that accepts the structuring role of the conditions of the subject while giving a dynamism to the structures themselves. Rolando García says:

> The subject of knowledge structures 'reality', i.e., its objects of knowledge, as it structures, first, its own actions, and then its own conceptualizations. Or, more specifically: the subject builds his instruments of organization (structuring) of what we call "the world of experience", since—and this is the core of the problem—only through those organizations (structuring) can he assimilate it (2000, p. 59).

Recognizing Piaget's explicit Kantian affiliation and, at the same time, his attempt to overcome it, why have we said that it is difficult to determine whether he falls into an *epistemic invasion*? Perhaps the most novel and, at the same time, questionable aspect of his contribution lies in the fact that he has denied the very assessment of the epistemology or theory of knowledge of a philosophical nature, and his claim to replace this branch of gnoseology by a non-philosophical knowledge. Piaget thus proclaims the need to set up a Genetic Epistemology, an "essentially interdisciplinary research, which aims to study the meaning of knowledge, of operative structures or notions, drawing on its history and current functioning in a finished science" (Piaget, 1970, p. 90).

Indeed, Piaget proposes to replace philosophical considerations relating to the nature of what we call scientific knowledge (level of abstraction 3) by a new type of interdisciplinary knowledge, which uses its own method of experimental sciences (level 1 of abstraction) to affirm the scope and limits of science.

Piaget's proposal does not fall into an epistemic intrusion in the sense proposed by Ballantyne. Rather, it nullifies the very notion of intrusion by rejecting the distinction of epistemic degrees and their relative autonomy. In this sense, it proposes to invalidate the contribution of philosophy itself (and philosophical epistemology) as "useful to sustain a reasoned position regarding the totality of the real" (Piaget, 1970, p. 52), but not to provide

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solid foundations for the development of science. Philosophy still has its objective, but it lacks the value to achieve scientific certainties:

> Then it would be possible to distinguish without hurting anyone's convictions, next to strict knowledge, what we might call a "wisdom" (*sophia*), i.e., a set of plausible knowledge grouped according to a general coordination of values (Piaget, 1970, p. 79).

In short, by rejecting the validity of the contribution of philosophy to scientific knowledge, Piaget questions the role of subalternation of sciences regarding it, both at the level of the foundations, as well as in the epistemic or logical procedures valid for the development of scientific knowledge.

This invalidation of the foundational character of philosophy is neither innocuous nor necessarily novel. Somehow, by declaring his preference for strict knowledge on an experimental basis, Piaget places himself in a tradition close to philosophical positivism. Thus, it falls into a certain performative contradiction when declaring -through philosophical arguments not based on empirical proof- the invalidity of philosophy and the constitution of a new discipline: Genetic Epistemology. In his opinion, it seems to offer greater guarantees of solidity and rigor than that provided by the history of philosophy itself. The defense of Genetic Epistemology therefore rests on a request for principle based on negative subjective experiences about philosophy, rather than on a thorough demonstration resolved with the methods defended by its own principles[1].

At the same time, with his ironclad defense of the certainty of empirical science, Piaget does not want to return to pre-modern positions that envisage the possibility of untainted apprehension of the world. As in Descartes' case, Piaget believes that human knowledge cannot be founded on intuitions derived from sensitivity. These are unreliable and deserve to be tested:

> The belief that intuition is both "contact with the object" and "True" requires a double test of fact and normative justification; however, as soon as such evidence is sought, intuition dissolves into experience and deduction (Piaget, 1970, p. 131).

Piaget joins the modern *foundationalist* tradition by proposing to sustain the entire architecture of science in foundations and methods that ensure empirical reliability. Like Descartes, he hopes that nothing will be excluded from the need for thorough demonstration, not even the world's primary intuition.

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In short, the Philosopher Piaget admits his adherence to a reformulated version of Kantian constructivism and declares the relative (relatively insignificant) validity of philosophy to guide scientific development and delimit its scope. His philosophical conclusions reveal to be philosophically questionable, which earned him severe criticism of his fellow beings (Merleau-Ponty and Husserl, in particular), something that contributed to deepen his discredit for philosophy. As is often the case, "philosophy always buries its undertakers" (Gilson, 1973, p. 346). Piaget's genetic epistemology failed to transcend strongly as a philosophical alternative, beyond having set up a circle of followers of Genetic Epistemology quite widespread.

On the other hand, Piaget made one of the most remarkable contributions to the history of pedagogy by highlighting several principles and laws related to the role of cognitive structures in the constitution of human knowledge. His contributions have proved valid — with the necessary corrections and reformulations — not only in the domain of pedagogy, but of all contemporary psychology. Suffice it to illustrate this statement by recalling the Piagetian heritage of numerous contemporary psychologists (Meyer, 2000, p. 514). Piaget's work illuminated, for example, the discoveries of Aaron Beck, the founder of cognitive therapy. This influence is clearly perceived in the description of the role of cognitive schemes for the configuration of automatic thoughts acting in depressive disorders (Alford and Beck, 1997).

If Piaget's value is to be found primarily in his scientific contributions and not so much—or not necessarily—in his philosophical contribution, it is worth discussing the almost natural association that he (and many others with him) establishes between his scientific contributions and the Kantian philosophical foundation with which he is naturally related. In other words, recognizing the contribution of constructivism at the pedagogical or psychological level does not imply a natural or necessary filiation to a Kantian-inspired philosophy.

Consequently, it makes sense to discuss whether it is possible to admit any kind of realism that grants participation to the dynamic and structuring elements of the world's experience without necessarily signifying an abandonment of philosophical realism. A positive answer to this question allows us to resignify the meaning of the term "realism" to free it from the representational burden that feeds the false dichotomy pointed out. Knowing the general terms of the debate developed by Charles Taylor and Richard Rorty may be useful to expand the notion of realism and verify the possibility of its compatibility with pedagogical constructivism.

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Deflationary Realism or Robust Realism

There was a curious relationship between Charles Taylor and Richard Rorty, which the former defines as "friend, adversary and *sparring*" in the foreword to his latest great work, *Retrieving Realism*, co-written with Richard Dreyfus (2016, p. 9). There were numerous oral and written exchanges that both had for years, and in which their points of agreement and dissent were reflected. Unfortunately, the richness of this interaction was prematurely interrupted by Rorty's passing.

The greatest consensus is observed in the mutual rejection of the modern mediational epistemology that accepts the existence of intramental representations whose correspondence with the world must be demonstrated. However, the curious thing is that both authors accuse each other of remaining captive to this epistemology, despite this rejection. In Rorty's words, "both Taylor and I are proud to have escaped the tent of the collapsed circus that is epistemology—those acres of cloth around which so many of our colleagues continue to beg meaninglessly. But each of us considers that the other is still, so to speak, stumbling in place, between the tangled ropes, without having escaped for good" (Rorty, 1995, p. 29). Now in Taylor's terms:

> It is here that Rorty's position, which we will call "deflationary realism," holds that all objects, including those of natural science, are intelligible only against the backdrop of our embedded coping, so the "nowhere" perspective is literally incomprehensible. It differs from our proposal, which we shall call "robust realism", and which states that to understand the status of the objects of natural science it is necessary to defend the existence of an independent reality. For robust realism, deflationary, it is an anti-realism still attached to that internal-external image (Dreyfus and Taylor, 2016, p. 115).

Unlike Rorty's proposal, Taylor sincerely believes that human language allows man's contact with the world. From Merleau-Ponty's phenomenology, Taylor learned that every perceptual act places a person in the presence of things that make sense. This is, in a way, prior to any later articulation that we can regarding them (Taylor, 1958, p. 128). But, at the same time, it is also not affordable by man with total independence of linguistic configurations.

> Our apprehension of things is not something that is within us, as opposed to the world; it lies in the way we are in contact with the world, in our being-in-the-world (Heidegger) or being-for-the-world (Merleau-

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> Ponty). That is why a global doubt about the existence of the world (does the world exist?), which may prove quite reasonable in the representational model, is shown to be incoherent once we have made the anti-foundationalist turn (Taylor, 2003b, p. 167).

Hence Taylor defines his position as a "non-problematic realism" -*Unproblematic Realism*- (Taylor, 2003b, p. 115)[2]. Rorty is not happy with this idea. He calls Taylor's position "uncompromising realism," and considers it trivial, common-sense, and uninteresting (Rorty, 2000, p. 127).

The whole defense of the Tajikistani truth rests on this non-problematic postulate which encourages us to accept that the reality of the world is immediately accessible to us through daily dealings. This is a postulate that does not allow rational demonstration, since it constitutes a condition of possibility of our knowledge itself, i.e., a transcendental condition (Bellomo, 2010, p. 162). But this is what Rorty does not approve of, who interprets this position as a naive realism, an uninteresting version of realism (Rorty, 1995, p. 29), which arouses the Taylor´s rejection, who denounces his habit of using ironic and inflated language to characterize the position of his realistic opponents (Taylor, 2003b, p. 177).

Despite these intricate debates, both authors seem to converge towards a thesis that sheds light on a typical aspect of constructivist positions: there is a tension in any process of knowledge between the discovery of the world and its assimilation to internal cognitive structures. In the context of this tension, the search for equilibrium demands a certain priority of the receptive aspect over the asset. Rorty himself, in his laudable review of the book *Sources of the Self*, rescues this trait as one of the defining elements of Tajikistani philosophy (Rorty, 1994, p. 200). Taylor formulates this principle quite clearly in his analysis of McDowell's work, *Mind and World*:

> Critical reasoning is an activity, something we do, in the realm of spontaneity and freedom. But, as far as the knowledge of the world is concerned, it is supposed to be receptive to the way things are. Spontaneity must be combined with receptivity (Taylor, 2002, p. 108).

The spontaneity that Taylor talks about refers to the creative dynamics by which we project on reality aspects that are not of it. Receptive dynamics, by contrast, is one in which reality itself emerges in defiance of our projections. Reality meets us as we try to force it to fit our criteria. "The expression brings the two together, finding and doing," Taylor says another time. "In the original variant, there is a balance between the two, but the latter is basically at the service of the former" (1997, p. 164; *cf.* also

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2003a, pp. 44-45). Doing is at the service of finding; projecting has to be functional when receiving and letting itself be illuminated.

In his last great work, Dreyfus and Taylor return to this intuition:

> Only if something more is said than has already been said in the history of philosophy will we be able to see what philosophers close to common sense, like Aristotle, have always warned, i.e., that we are in contact with the cosmos, but not by virtue of a separate and disembodied contemplative capacity, but by virtue of our material and active body, a body that is linked and that is oriented in the right way to face things. Perhaps a radical advocate of deflationary realism would not hesitate to rebut us and reply that it is true; we must be realistic in relation to the everyday world and the universe, but to say metaphysically that our beliefs correspond to what things are in themselves is therefore also useless (2016, p. 11).

As can be seen, Taylor does not doubt the existence of an independent reality, and the real presence of such a world in our cognition. Its realism aspires to be robust and pluralistic. He describes the nature of this particular type of realism:

> According to this vision: 1) There are various ways of accessing reality (therefore, it is pluralistic) that, however, 2) reveal truths that are independent of us, i.e., truths that require us to review our thinking and adjust it to them (and therefore it is robust realism). And, finally, 3) all attempts to redirect the different ways of questioning reality to only one form of investigation that offers a unified theory are doomed to failure (and thus ensures plurality) (Dreyfus and Taylor, 2016, p. 131).

There is a certain conceptual gap when it comes to justifying this assessment. In a way, this is Rorty's concern in characterizing Taylor's position as naive realism. Following the very logic of transcendental approaches, the existence of the extra-mental real being "seems to be reduced to an epistemic condition of experience, without being explained how the extra-mental real being becomes present immediately in the experience" (Bellomo, 2010, p. 177). In this respect, Aristotelian source realism is more persuasive, although it does not know the incidence of the conditions of subjectivity.

Is it possible to establish a dialogue between Taylor's robust realism and the Aristotelian realist tradition? The possibility is certain, though not without complexity. To do this, it is necessary to recover some aspects of Aristotelian form theory, without this meaning a return to classical traditions that do not take into account the configurative aspect of our cognitive structures. In other words, it is necessary to revalue the role of

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mediation in knowledge. "Such mediation is a representation, in the sense of a cognitive opening that makes present the known reality in such a way that makes it, in some way, luminous and accessible to human knowledge" (Llano, 2009, pp. 21-22). In terms of Millán Puelles:

> Any true proposition is indeed a representation, since it has the nature of a real mediation between a subject that knows and a known object: a mediation by virtue of which it is intellectually given to him. In its most extensive philosophical sense, to represent is to make something present, real or unreal, to a subject capable of knowing, and in this way knowing is to represent and knowledge is a representation (Millán Puelles, 1999, p. 209).

Aristotelian realism, like modern representational theory, conceives the need for cognitive mediations or internal representations for the knowledge of the world. Unlike modern representational epistemology, these are not conceived as intra-mental copies of external reality. The "representation" of Aristotle is not that of a reality that is disjointed and absolutely independent of the reality represented. There is an intentional identification between representation and represented object:

> The representative nature that is attached to the concept in classical knowledge theory does not coincide with the modern sense of *representative* or *Vorstellung*. In the realm of realistic metaphysics, the concept does not replace the real form, but rather refers to it, just because it is intentionally identified with it. The 'being for' or 'supposing' does not mean here to overlaying' the actual reality with a second instance, possessing an *objective reality* that would dispense with the investigation of real things and cases (Llano, 1999, p. 134).

A thorough understanding of this theory requires drawing the distinction between constituent representations and constituted representations, an aspect that exceeds the claims of the present work, but that sheds light on the complexity and depth of the problem. The final thesis of these reflections is that it is not by accepting the role of mediations and representations in human knowledge of the world that we become victims of modern *mediational epistomology*. Cognitive mediation arises from the efficient action of the world's properties on our subjectivity, a world known to the human way. It is in and through mediation that the intelligibility of the real becomes present.

Piaget's pedagogy could well have been framed within a similar philosophical position. By accepting a moment of cognitive adaptation consisting in the accommodation of our schemes to the world, this "re-

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vealing" dimension of the world is being recognized that forces us to review our preexisting schemes.

This revealing dimension coexists in tension with our "projective" propensity from which we first try to assimilate the world into our knowledge structures. But if reality resists being caught up in our schemes, it is because it exists in itself and operates in some way, exerting efficient causality on our cognitive powers. In short, this implies the acceptance not only of the independent existence of a world itself—ontologically and epistemologically available to be known—but also of the real possibility of its knowledge.

Conclusion: on the possibility of a realistic pedagogical constructivism

The possibility of a realistic pedagogical constructivism is not only not contrary to the teaching of pedagogical constructivism itself, but is promoted to a certain extent by its own discoveries.

On the one hand, the moment of accommodation in Piaget's constructivist paradigm constitutes the instance in which our cognitive structures are forced to reorganize themselves by the demands of external reality. This happens when the previous moment of assimilation of reality to our cognitive structures did not solve the cognitive imbalance, leaving the subject in a situation of imbalance.

Under these assumptions, constructivism not only recognizes the existence of a reality conceived in the transcendental Kantian way, as a primary source of intuitions of sensitivity, but also of a reality endowed with intrinsic meaning that calls our attention and persuades us of the need to make modifications to our judgments and schemes. It is a working reality whose current principles shape our knowledge from an intelligibility revealed in the context of action.

For this revealing dimension of the world to be explained from philosophical realism, it is necessary to recognize the need and existence of mediations in knowledge. But, mediations or representations, in this case, should not be imagined as a *tertium quid* that organizes and to some extent hides or prevents contact with the reality of the world. They should not be considered a "substitute for the reality of things to which the conscious subject can access, thus being blocked in his own isolated entity, unable, completely, to open himself cognitively to other realities" (Millán Puelles, 1999, p. 293). This last meaning leads to the mediational or repre-

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sentational image that condemns us to Kantian immanentism, to the distinction between phenomenon and number, a conception that has hastily been adopted and reformulated by constructivism as a basic doctrine.

Mediation or representation to be recognized in realistic constructivism is that conceived as the result of an active influence of the intelligibility of the world in our cognitive powers. Mediation is an enabling medium, an *in quo* element (in which) reality is present. Representation is nothing but reality as it is immaterially present in our subjectivity.

It is not a question of returning to realistic pre-modern positions that do not absolutely conceive the configurative and structuring aspect of knowledge. Indeed, human knowledge implies a tension between discovery and projection that is already discovered in the same configuration of our sensitivity and intelligence. In the first instance, realism takes place when the intelligibility of things becomes present and accessible to us within the framework of our organic and psychological constitution. The world to which we have access constitutes only one part of a reality that is vastly and immeasurably richer than that which comes to our attention in the context of our conditions of subjectivity. But it is finally true.

Some of our mediations, once configured in contact with the intelligibility of the real, become structures of organization of the subsequent knowledge. Its configurative action becomes projective, and is challenged since — in Piaget's terms — we fail to assimilate the reality of the world to our cognitive schemes. Then, a new strongly realistic *momentum* occurs: the intelligibility of the real forces a modification of the same structures, in a virtuous circle that revitalizes and enriches our understanding of the world, in dialogue with our fellow human beings.

If this reconciliation is possible, why did Piaget not adhere to a realistic philosophical positioning if his scientific discoveries paid for this possibility? It is hard to know for sure. It is likely that the strong incidence of Kantism in his time played a very persuasive role in his case, as happened with many other thinkers of his time. As shown, it also seems to have acted in it a very typical inertia of certain authors of science, who are only inclined to accept what has been proven to them according to the canons imposed by their own discipline. Uncritically accepting the fact of intuition of the real, in a non-problematic or problematized realism, seems something alien to the mental categories attached to modern *foundationalism* in general, to which Piaget seems to have aligned filially.

The inclination towards realism or immanentism constitutes a philosophical choice rather than the result in a thorough demonstration. In other words, those who opt for idealism do so not from evidence, but

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from the rejection of what for realism constitutes evidence that cannot and should not be demonstrated, something that for immanentism can be considered an equally questionable *foundationalism*.

The impossibility of a full demonstration does not necessarily make realism naive, in the sense of lacking a rational foundation. According to Gilson, it is possible to justify the validity of *methodical realism* from the analysis of the mistakes and dead ends to which immanentism leads by pretending to demonstrate the reality of *esse* from *percibi* (Gilson, 1963, pp. 84-85). This is a demonstration by refusal, rather than a justification by means of a proposal. This justification may not satisfy those who aspire to base realism on irrefutable argumentative demonstrations.

Another possible way to rationally base philosophical realism is the one chosen by some *functionalisms*: these are the ones that recognize the property of our knowledge to converge in explanations that "work" in our relationship with it, that allow us to operate on it and project, even, future behaviors of reality. Functionalist theses, because they lack sufficient reflective depth, clash with the same basic problem when they inquire about its ultimate justification. For some, functionalism constitutes a confirmation of robust realistic hypotheses (Taylor, 2016, p. 124), for others, a vindication of metaphysical skepticism consistent with anti-foundationalist positions (Alcalá, 2016, p. 94).

Therefore, it is likely that the conclusions of this work fully satisfy those who are already inclined in favor of philosophical realism. They will find more or less valuable philosophical arguments to conceive and justify the possibility of a realistic pedagogical constructivism. For those who belong to an immanentist tradition, which does not conceive the possibility of accessing the being of things, surely these arguments are not conclusive. In any case, the fact of presenting the alternative and keeping the disjunction in force constitutes a great contribution in the culture of post-truth.

Notes

1 *Cf.* Piaget, 1973, p. 90. His arguments translate a classic positivist discourse: let empirical science define the laws that should regulate their functioning. The reliability presumption of empirical science contributes to install a fallacy of *petitio principi* on which the author relies to trust that the empirical sciences, acting in an interdisciplinary way, will know better to establish their own laws, precisely because it assumes that they are more rigorous and, therefore, the only valid to proclaim about the validity of scientific knowledge.

2 See also Taylor, 2005, p. 39; 2003, p. 168; 2000, p. 120-121. Taylor also calls his realism as *aggressive* (*aggressive*) in 1990, p. 265.

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