Psychological conceptions and practical results[1]

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Abstract: When dealing with the question of the relation between William James's pragmatism and his psychology, the usual answer consists in tracing back the pragmatist epistemology and theory of truth to his functionalist conception of mind. The aim of this paper is to outline another relation which often goes unnoticed. My contention is that we can find in James's work a pragmatist conception of psychology itself as a science, which can be expressed in his formula about psychology being a "practical science of mind". "Practical", here, must be understood in two different but complementary meanings. On the one hand, psychology has to become a scientific practice, aiming at the discovery of causal laws and free from all metaphysical speculations (experimentalism). On the other hand, the constitution of psychology as a natural science is the necessary condition for it to have some practical applications, notably to education and medicine. The paper outlines the benefits that could be gained in the overall interpretation of James' work by understanding such relationship between pragmatism and psychology.

Keywords: William James; pragmatism; psychology; practical science; education.

1. *Introduction*

The birth of the pragmatist movement is dated to coincide with a talk given by William James in 1898 under the title 'Philosophical Conceptions and Practical Results'. In it, James, quoting Charles S. Peirce, laid out the pragmatic method in its aims to clarify the meaning of philosophical problems and concepts. His reworking of Peirce's principle went as follows: "the effective meaning of any philosophic proposition can always be brought down to some particular consequence, in our future practical experience […] the whole function of philosophy ought to be to find out what definite difference it will make to you and me, at definite instants of our life, if this world-formula or that

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world-formula be the one which is true" (James 1975: 259-60). The primary interest of such a method is to rid ourselves of certain ways of formulating problems, which James calls "scholastic", and of certain conceptions, which he refers to as "metaphysical", all of which hamper philosophical activity insofar, precisely, as they have no discernible practical consequences and therefore no identifiable sense. Humanity would not be changed in how it lives should some scholastic or metaphysical conception it adopted turn out to be true, for the conception would be formulated in such a way that no practical consequence conceivable in our future experience could be deduced from it.

The 1898 conference marked a turning point in James's work. That same year, he began to prepare his *Gifford Lectures*, those that would later become *The Varieties of Religious Experience* (1902), a text that exploited an approach to religious study focused not on abstract theological discourse but rather on the concrete experiences such discourse can either lead to or be derived from. Later, this approach he had sketched out for the conference and employed in the specific case of religious beliefs would be developed in a more systematic and generalized manner for other talks, ultimately leading to the publication of *Pragmatism* (1907).

The question I would like to raise here, however, does not involve the subsequent effects of this inaugural conference, but rather what led up to it – i.e. the scientific psychology James had set down eight years prior, in 1890, in his *Principles of Psychology*. Did James already have a pragmatist conception of psychology, before pragmatism as a philosophy was ever explicitly articulated in his works? In this, we are not asking whether the source of his pragmatist philosophy can be found among his various psychological theories, a point which has already been studied in detail. Indeed, there is no doubt that his "biological conception of mind" (which sees all psychological functions as teleological instruments serving to adjust the individual's reaction to solicitations from its environment) constitutes the naturalist base upon which he constructed his pragmatist theory of knowledge and truth (Dewey 1922; Madelrieux 2008: Ch. 3). It is just such a conception of mind that we find again today, worked into contemporary cognitive science in its current association with pragmatism (Johnson 2006). But my aim here is to take a step further back than this psychological theory and ask whether James had a pragmatist conception of psychology as a natural science. Did he believe that a scientific psychology must have practical consequences? More accurately, is what makes psychology a science (rather than a metaphysics) of mind precisely the fact that it would have just such specifiable consequences on people's lives? I will answer in the affirmative: the interest and value of psychology as a science is, for James at least, measured by its capacity to make a practical difference in

people's lives, which is to say, to produce concrete improvements in how they think and behave.

If such a hypothesis turned out to be true, this would lead to a shift in our usual understanding of his psychology and its relation to pragmatism. In fact, this hypothesis fits with three interpretative manoeuvres that could contribute to a modification in our comprehension of his work. Firstly, it would alter the value given to certain texts on psychology that have often been considered as minor works in his corpus, texts written in this transitional period between *Principles* in 1890 and the pragmatist conference of 1898 – because it is in this series of psychological texts, and not in *Principles* itself, that such a pragmatist position is most clearly asserted with respect to psychology. We could even say that, before applying the pragmatic method to religion, he applied it retrospectively to the psychology he had just completed. Secondly, it would enable a coming together of two sides of his psychological work that are often seen as, or at least read, separately, i.e. his physiological, 'cerebralist' psychology on the one hand and, on the other, his participation in 'psychical research' into 'second' states of consciousness, from hypnotic states to medium trances, encompassing hysteria, telepathy, and religious conversions. Indeed, it is quite rare to find a commentator of James's biological psychology exploring explanations for such supposedly irrational 'psychical' positions and, conversely, certain commentators of James-the-explorer-of-the-subconscious are too quick to point the finger at a youthful positivism (thankfully left behind him, they would say) when explaining James's commitment to transforming psychology into a natural science. I maintain that the relation between these two domains, along with James's evolution as he progressively turned away from laboratory experimental psychology towards seeing clinical psychology as the future of psychology, can be explained by his pragmatist conception of studying the mind, as well as by the hope he held for the improvements this conception would surely bring to humanity. Lastly, it is generally considered that the publication to dominate that decade was *The Will to Believe* from 1896 (James 1979) – regardless of the fact that it is a compilation of texts stretching from over almost twenty years. This is because it is the first work that James explicitly presented as a book of philosophy, and it is a commonplace to see commentators make his "will to believe" theory not only an origin of, but actually a condition for his pragmatism. Since, moreover, "the will to believe" is taken to be a device for justifying religion, it is thus but a small step to take to maintain that James would also defend the idea that truth can be reduced to the satisfaction procured in us by a given belief, whether or not there be any positive proof to uphold it – as seems to be exactly the case with religious beliefs (Russell 1997: Ch. IV). Independently of these questionable or plainly false interpretations of the will to

believe and pragmatism, focusing on the psychological writings of this specific decade allows a complexification, if not a total shift, in the genealogical lineage of pragmatism by showing that it was contemplation of science, just as much as analysis of religion, which provided James with a reference point for his later, more general considerations.

2. *Psychology as a Practical Science of the Mind*

The text we must start with, in that it constitutes both a review of *Principles* and a program for the decade to follow, is an article written in 1892 entitled "A Plea for Psychology as a 'Natural Science'" (James 1983a: 270-77). In it, countering a critique from the psychologist G. T. Ladd, James reaffirms the methodological program set out in the preface to his treatise, wherein he stated that he had "kept close to the point of view of natural science throughout" (1981: 6), in the sense that "a certain amount of brain-physiology must be presupposed or included in Psychology", insofar as "[mental] phenomena are […] conditioned *a parte ante* by bodily processes" (James 1981: 18). Thus, in this article, James returns to the necessity for psychology to establish itself as "a 'science' of the correlation of mental states with brain states" (1983b: 275). His plea ends with these lines:

> Nevertheless, if the hard alternative were to arise of a choice between 'theories' and 'facts' in psychology, between a merely rational and a merely practical science of the mind, I do not see how any man could hesitate in his decision. The kind of psychology which could cure a case of melancholy, or charm a chronic insane delusion away, ought certainly to be preferred to the most seraphic insight into the nature of the soul. And that is the sort of psychology which the men who care little or nothing for ultimate rationality, the biologists, nerve-doctors, and psychical researchers, namely, are surely tending, whether we help them or not, to bring about (1983b: 277).

The surprise in this text evidently resides in the juxtaposition of biologist psychologists and "psychical researchers", and even in their convergence towards a single type of epistemological program since both categories of psychologist tend, according to James, to bring about a single type of psychological science, a "purely practical science" based on the study of mental states, in opposition to a purely rational science advancing *a priori* theories of the soul. It is significant in this regard that James substitutes *practical* for *empirical* psychology when framing the classical opposition, dating back to Locke, with *rational* psychology. Both of them, empirical psychology and practical psychology, rely on mental facts and how they are related, and both refrain from any hypothesizing on absolute causes or conditions such as the soul or the transcendental ego. But what

the notion of practical psychology adds to that of simply empirical psychology is the aspect that knowledge of these facts and their laws will grant us a certain capacity to then control those facts, to bring about their appearance, provoke their disappearance, or subject them to certain modifications. As it happens, the goal of scientific psychology would be to allow us to control mental states, which is to say, according to James, basic psychological facts. Hence, what emerges here is a pragmatist conception of psychology, taking practical consequences, understood in terms of predicting and controlling facts, and making them a criterion for the scientificity of the discipline. Thus, within an unabashedly positivist outlook, James sets psychology at a historical crossroads: either it will continue to ask questions of "fundamental philosophy" regarding the intimate nature of the soul or transcendental ego, in which case it will never become a science, or else it must try to become a science as unto the others, but this would mean turning away from such fundamental philosophical questions in order to focus on facts by shaping itself into "a branch of biology" (1983b: 273). Committing to building psychology into a natural science is not only an epistemological demand, it also responds to a social need, as James himself noted:

> All natural sciences aim at practical prediction and control, and in none of them is this more the case than in psychology today. We live surrounded by an enormous body of persons who are most definitely interested in the control of states of mind, and incessantly craving for a sort of psychological science which will teach them how to *act*. What every educator, every jail-warden, every doctor, every clergyman, every asylum-superintendent, asks of psychology is practical rules. Such men care little or nothing about the ultimate philosophic grounds of mental phenomena, but they do care immensely about improving the ideas, dispositions, and conduct of the particular individuals in their charge (1983b: 272).

We would nevertheless fall into error were we to project onto this text what has by now become the familiar distinction between fundamental science and applied science, thereby believing that James's intention was to see psychology, as a whole, becoming a study of mind applied to the problems of education, observation, spiritual guidance, and mental illness. The opposition rational/practical does nott fit into the opposition fundamental/applied, because rational psychology is not a fundamental science at all, and this for the simple reason that it is not any kind of science; it is a metaphysics. What James wants to make understood is therefore that one could never even hope to *apply* the kind of psychology which presents itself as fundamental (on the pretext that it deals with the ultimate foundations of thinking), because it is *logically*, i.e. not just in practice, that no practical consequences can be deduced from its metaphysical speculations.

Furthermore, the first of the practical consequences James mentions involves neither educators nor doctors but rather researchers in psychology themselves. If, echoing James's target in this reasoning, the psychologist G. T. Ladd, one posits a purely intellectual agent charged with unifying the multiplicity and diversity of our mental states (much like Kant's transcendental ego), well then psychology ends there: there would be nothing further to be done, for the ultimate foundation for our research would already have been found. If pushed, one could refine the introspective descriptions of mental states in their multiplicity and diversity, but the principle behind these mental states would already have been unlocked, once and for all. For the pragmatist, to posit such a principle as the absolute foundation of the phenomena to be studied equates to blocking the path of scientific inquiry. By contrast, if, instead of such an absolute cause, one endeavors to understand the "immediate conditions" of mental states, i.e. organic conditions, then a whole, vast research program of potential discoveries and progress opens up. James had no illusions about the actual advancements of physiological psychology and was the first to state that the psychologists of his time had found no universal law governing the correlation between mental states and organic states. But this relative disappointment was not the most important aspect for him. The most important thing, in attempting to correlate facts with other facts, is for everything to remain in the experimental domain, so that significant practical consequences can be expected as regards controlling these facts. In contrast, a metaphysical principle such as the transcendental ego provides us with no means for predicting or controlling psychological facts, since in and of itself it is susceptible to no variation that could in turn be correlated to any variation in mental states. How could one ever act upon the transcendental ego in order to act on mental states if the transcendental ego has been placed quite precisely beyond the sphere of experience, which is to say, beyond the sphere of our possible actions upon it? As a matter of principle, the transcendental ego cannot be experimented upon – that is a purely logical necessity. One may get rid of the transcendental ego, but if the empiric self and its states of consciousness are preserved then the mind of the subject will not be affected, and it will be possible to carry on studying it as before: get rid of any part of the brain, on the other hand, and the difference in the phenomena provoked will be both specifiable and observable. Consequently, there is really no point in maintaining the hypothesis of such a theoretical entity, one which effects no practical difference. And so it is not overly important that psychology is not yet a natural science, since just the hope of becoming one is more fruitful than the dogmatic assertion that the goal of psychological research has already been reached: "We needn't pretend that we have the science already; but we can cheer those on who are working for its

future, and clear metaphysical entanglements from their path. In short, we can aspire" (James 1983b: 276-277). Thus, what is bound together in this positivist research program are three major positions which would later go on to be developed as independent concerns: naturalism (as opposed to transcendentalism), to the extent that mental states are considered as "temporal events arising in the ordinary course of nature" (1983b: 272) in relation with other natural events arising in the physical world; empiricism (as opposed to rationalism), for the only knowledge to be permitted in psychology is that coming from the observation of and experimentation with these natural phenomena, a ban placed on any knowledge obtained through intellectual intuition or deduction on the basis of any *a priori* principle; pragmatism (as opposed to intellectualism), because the theoretical knowledge of these mental phenomena is indissociable from the practical mastery it grants us over them, its value residing in the possibility it gives us to act upon these phenomena, with a view to improving the "ideas, dispositions, and conduct [of] individuals".

Reviving the pragmatist project announced in *The Principles* in this way enables a revaluation of the first work from the 1890s, being James's *Psychology: Briefer Course*, which he had published the same year as his "Plea…", in 1892. The interest of this book resides not so much in what it does as in what it does not say. The principal distinction between the weighty treatise (1400 pages) and the briefer one (400 pages), between "the James" and "the Jimmy", is precisely that James trimmed the latter of all discussion and debate concerning philosophical questions raised by the nature of mind. Yet this never implied any purely positivist attitude of simply discarding such philosophical questions, but rather a desire to delimit the terrain through a division of labor. It is less a question of eliminating philosophy, as such, as it is of preserving psychology in order to set it to work on problems it is equipped to resolve. The *Briefer Course* is not just an abridged version of *The Principles*; it is the positive version of a science in full construction, whose considered opinion is that philosophical debates about its nature are already behind it. The fact that it was a manual designed for students is revealing for this reason: James states his wish that the future generation of psychologists will make progress on the genuinely psychological problems he presents in his book, and will do so, as in every science, by gathering observations and amassing experiments, with the aim of finding the laws of correlation between mind and brain.

The conclusion of the *Briefer Course*, an original element with respect to *The Principles*, is illuminating on this point, for it is here that James shifts from psychology to philosophy, pointing out the principal, global contributions that psychology, with its limited scope, has brought to the ultimate critical review of all the elements of the world. Indeed, as a natural science, psychology is a

special science, just as physics is, specializing in a specific group of natural phenomena to reveal the relationships that exist between them. As such, simply to enable its work to commence, it uncritically accepts a certain number of ontological or epistemological postulates about nature and mind. Just as the physicist supposes an external material world without needing, for the purposes of the work to be done, to adopt either a realist or idealist stance with respect to its fundamental nature, so the psychologist suspends the critical eye in accepting that consciousness exists as a fact of nature, that it is distinct from the material world, that it can know other facts of the world – including those of the material world –, and that the psychologist carrying out the study can know the same facts as it. Thus, in order simply to measure the reaction speed of a subject witnessing the appearance of a spark, the psychologist must presuppose that the subject perceives the same spark that s/he does, and that both of them, through this perception, come to know a fact about the external world. Philosophy is not simply absorbed, or outright eliminated, by the natural sciences, precisely because according to James it is "an unusually obstinate attempt to think clearly and consistently" (1983b: 395) about these postulates from the natural sciences, beginning with those of psychology.

In this regard, *Psychology: Briefer Course* exactly matches the *Essays in Radical Empiricism* which James began to write around 1904, but which are the result of seminars given at Harvard beginning just after the publication of the *Briefer Course*, on the "Discussion of certain theoretic problems, including consciousness, knowledge, the Self, the relation of Mind and Body, etc." (1895/96), for example, or the "Philosophical Problems of Psychology" (1897/98). One of the main objectives of these philosophical essays was to critically question the dualism between matter and thought that psychology posits, and indeed *must* posit, in order to function. Because if it did not circumvent the inherent difficulties of such a conception, then it would still be at the stage of discussion rather than experimentation and its science would have made no progress. James explicitly lays out this program in the essay entitled "*La notion de conscience*" (1905), the fruit of a talk delivered at the 5th International Congress of Psychology in Rome:

> Each science arbitrarily carves out a field from the scheme of things in which to lodge itself and the content of which it describes and studies. Now, psychology takes precisely for its domain the field of the facts of consciousness. It postulates these facts without criticizing them, and opposes them to material facts; and, also without criticizing the notion of the latter, psychology connects them to consciousness by the mysterious bond of knowing, of apperception, which is for psychology a third kind of fundamental and ultimate fact. By following this approach contemporary psychology has enjoyed great triumphs. […] [B]ut many problems yet remain. Above all, general

philosophy – which has as its task the scrutiny of all postulates-finds paradoxes and obstacles precisely where science takes no notice […]. And, for my part, I confess that, since I began to concern myself seriously with psychology, this old dualism of matter and thought, this heterogeneity of the two stuffs posited as an absolute, has always presented difficulties for me (James 1976: 262-63).

Hence, the two works correspond quite exactly with the division of labor he had recommended as early as his "Plea…": the first is a work of scientific psychology, where all philosophical discussion regarding the nature of consciousness, of matter, of knowledge is held at a distance in order to make way for a positivist research program on the relations between natural phenomena; the second gathers together essays on the philosophy of psychology, wherein the notion of consciousness, the nature of the external world, and the possibility of the one having knowledge of the other are all critically questioned in turn. James sees such a division as beneficial to both disciplines. On the one hand, philosophy would cease to be abstract and would instead both base itself upon and question the most contemporary facts and theories from psychology. On the other hand, since, if it does not wish to fall at the first hurdle, it must no longer start from metaphysical questioning into the nature of its objects, psychology will now be able to draw benefit from such questioning once it has fully integrated the naturalist program into its practices, insofar as metaphysics will help it to identify the elementary units between which a law might be established: what are the minimal mental fact and elementary cerebral fact between which one might hope to discern a law of causality? Difficulties with the definition and delimitation of the relevant units appear here, problems that science alone cannot hope to resolve with its methods of observation and experimentation, for the application of such methods presupposes the definition of such entities in the guise of postulates.[2]

The pragmatist point of view in psychology must therefore be understood in two ways, distinct though inherently linked, dependent on the meaning attached to the term "practical" in the idea of a "practical science of the mind". Pragmatism first and foremost means the adoption of an epistemological framework allowing practical science the room it needs to operate, without being hindered by either false problems or poor methods. If this point of view be adopted, then psychology will be liable to progress in just the same way as all the other natural sciences. Here, the meaning and value of psychology reside wholly in practical consequences, but these consequences are relative to the *practice* of psychology as a science: the naturalist psychologist has things

[2] In other words, the necessary distinction between psychology and philosophy should not result in a separation of the two kinds of inquiries (cf. Bordogna 2008).

to *do*, whereas rational psychology can find no place in any concrete research program. It is important to underline that we are far from the rose-tinted image of a utilitarian pragmatism: it is the road towards science itself which is first cleared when we turn away from metaphysics. Which means that the expected practical consequences are above all scientific, not technological – on condition, that is, that science be identified with a practice.

It is however no less true that the practical science of mind is pragmatist in the second sense of being useful to humanity: knowledge of facts and their laws grants us the hope of improving education, hygiene, labor, care for illness, etc. Yet the two kinds of practical consequences (internal and external) are inextricably linked. One cannot hope to deduce useful consequences from a conception of psychology that hinders the progress of research, as is the case with any metaphysics of the mind. In a provocative simplification, James makes the same remark in his review of a work of Thomist psychology written by a certain Rosmini: "[The distinctions made by Rosmini and other scholastics] are sterile: we can deduce from them no immediate practical receipts. To peel potatoes, we must look at other aspects of the world than substantiality and accidentality and the distinction between immanent and transient acts" (James 1987: 397).

It is because practical science aims to discover the law of changes and variations (e.g. between cerebral phenomena and mental phenomena) that it is possible to use these changes towards the betterment of humanity. It is because the experimental method is already, in itself, a manipulation of phenomena that it enables a certain control of these phenomena towards objectives that go beyond their simple knowledge. What we call applied psychology is not so much the application of a purely theoretical science as it is the continuation and extension of scientific practice beyond the laboratory, focused on human interests. In short, it is because science is an experimental practice that practical use can be drawn from it. The more naturalist it is, the more humanist it can be.[3]

3. *Educate and heal*

In his "Plea…", James does not deal with biologist psychologists and "psychical researchers" in the same manner, in that he primarily insists on the interest the biological conception of mind has for "practical men". Notably, he declares that "[the] brain-path theory based on reflex action, the conception of the human individual as an organized mass of tendencies to react mentally and muscularly on his environment in ways which may be either preservative

[3] On the general importance of social usefulness for the institutionalization of the "new psychology" in the United States, see Ash 2003.

or destructive, not only helps them to analyze their cases, but often leads them to the right remedy when perversion has set in" (1983b: 272). And yet, we can already see the signs of a turnaround in this text, because he adds that "[the] 'psychical researchers', though kept at present somewhat out in the cold, will inevitably conquer the recognition which their labors also deserve, and will make, perhaps, the most important contributions of all to the pile" (272-73). He specifically justifies the growing interest in such research in psychology through the hope they provide that we may "cure a case of melancholy, or charm a chronic insane delusion away" (277) – two examples of what explorers of the subconscious, but not physiologist psychologists, were just beginning to be capable of (James refers to these explorers using the blanket term, "psychical researchers"). Moreover, it is not by chance that men of the cloth also feature in the list of "practical men", since if religion does hold an interest and value for James then it is precisely because it is a kind of medicine and has the capacity, according to the examples he quotes in *The Varieties of Religious Experience*, to cure cases of suicidal melancholy (1985: Lect. VI-X).

That biological psychology of mind and psychical research evoke such hope in him stems from the fact that both of them, albeit in their own manner, tackle the question of the *causes* of mental states and are not content to merely describe them. In a review by James of *Psychology: Descriptive and Explanatory* (1894), by the same G.T. Ladd, the former vehemently advances research into causes, which should be the program of all scientific psychology, as opposed to the "flat descriptive level" Ladd resigns himself to (James 1987: 485). Indeed, on the one hand, James's cerebralism leans on the postulate that organic states are the cause of mental states, to such an extent that we can actually hope to indirectly act upon mental states, and thereby on the behavior of the individual, by acting on organic states, which is an easier task to accomplish. On the other hand, his interest in psychical research leans on the idea that states of consciousness, and therefore the behavior of the individual as well, can also be altered via subconscious states, as evidenced by the phenomenon of hypnotic suggestion. The organic causality and subconscious causality of states of consciousness are therefore the two research programs of psychology conceived of as a practical science.[4] James favored two broad fields of applica-

[4] This open assertion of the scientific and pragmatic superiority of the explanatory approach over the descriptive one rings out like an anticipatory dismissing of all phenomenological interpretations of James's psychology that try to reduce or discredit the naturalist project of establishing it as a science (cf. Wilshire 1968, Wild 1969, Edie 1987). In a letter dated 1st November 1892 to the English psychologist James Ward, author of a review of the *Briefer Course*, James again explicity repeats: "The real thing to aim at is a *causal* account; and I must say that that appears to lie (provisionally at least) in the region of the laws as yet unknown of the connection of the mind with the body. There is *the*

tion corresponding to each of these two programs, education and medicine – he himself had a medical background and was also a teacher. From the side of biological psychology, it is a case of the "education of the hemispheres", as he puts it himself, the path to which is to "make our nervous system our ally instead of our enemy" (1981: 126), an enemy which leads us into bad habits. From the other side, the side of psychical research, it is a matter of enhancing one's physical and psychological capacities by turning the subconscious into a resource instead of a pathology. The reason he progressively abandoned the first path in favor of the second, in which he eventually came to see the future of psychology, is not a purely philosophical one (the identification of experimental psychology with a reductionist conception of man and the orientation towards a clinical psychology of the human subject taken as a whole). Rather, it is a practical one. According to James, no universal law of correlation between cerebral states and mental states had been discovered "from which any consequence can causally be deduced" (1983b: 401); whereas he saw the discovery of the subconscious as an event of great promise for therapy, to the point that, at the beginning of the following decade, he referred to it as "the most important step forward that has occurred in psychology since I have been a student of that science" (1985: 190).[5]

In 1899, James brought out a book composed of a series of talks addressed to teachers: *Talks to Teachers on Psychology*, a work that can be considered as one of the pioneering texts of the education sciences. The talks clearly belong to the biological conception of mind that James had advanced in opposition to overly "intellectualist" approaches in psychology, insofar as these latter resulted in negative pedagogical consequences. He recalls that traditional psychologists and philosophers had advanced the primacy of the theoretical function of the mind over its practical functions. For them, the goal of man, a rational being, must be to know absolute truth, a theoretical truth, and so the employment of the intellect in practical affairs was to be considered a secondary pursuit. James, by contrast, shows that the psychology of his day had shifted its interest:

subject for a 'Science' of psychology!" (James 2000: 329).

[5] Eugene Taylor was the first to draw attention to the psychological writings that came before *The Principles* (cf. Taylor 1996), but his account of the 1890s is plainly biased towards works on the subconscious; thus, he minimizes the other path, the biological conception of mind (for example, by playing down the *Talks to Teachers*), which, from my perspective, led him to exaggerate the division in James's thinking between biological and clinical psychology. I instead intend to show that it is an overall pragmatist inspiration that drives both types of research and that if a Newton of psychophysiology had come along, just as is dreamed in the conclusion to the *Briefer Course*, then James would most certainly never have abandoned this line of research: beyond his lack of natural disposition towards the setting up of experiments, it was the sterility of experimentation which eventually left him cold.

"from the mind's purely rational function […] to the so long neglected practical side" (1983a: 24). At the origin of this practical turning point in psychology, we find the conjunction of two scientific discoveries about living beings: firstly, *Darwin's theory of evolution*, which James extends into psychology by showing that the mind, insofar as it appeared in our ancestors and developed along the course of evolution, is useful to the survival of the individual and the species, to the extent that it can be defined by the practical function of adaptation to the environment; secondly, the *discovery of reflex action* and its extension into the brain, which revealed that the sensory and intellectual functions exist as an aid to the volitional functions underpinning determination of the best reaction possible to the requirements of the environment – each intellectual faculty thus functioning as a mediation between a received sensation and a returned reaction. The conjunction of the functionalist and sensorimotor points of view led to what James himself called the "biological conception" of mind (1983a: 33), the most general notion of which is the following: that the function of the mind is to aid the individual in determining the most useful reaction in response to its sensory impressions.

Two global classes of consequence for education result from this, both detailed by James in his talks. The first involves what might be called the education of people, as opposed to the education of pupils: not education in the context of the classroom, but more broadly the psychological development of children. As a living organism, the child has instinctual tendencies to react, tendencies which help it to survive. But these are not always the most useful for a given situation, as is shown by the example of the child who burns its fingers in the fire it is instinctively drawn towards. The goal of education, for James, is therefore to take our innate reactions and graft new reactive possibilities onto them, greater in both number and perfection, and which enable us to confront both unprecedented and commonplace situations. It is thus a matter of giving the child reactive habits to replace its innate tendencies, where these habits will be more beneficial. For example, it is pointless to throw up one's hands at a child who is grabbing toys off others, since the child can not help itself: the instinct towards ownership and appropriation is, according to James, deeply rooted in human nature. Here, education consists in knowing how to substitute, via the association of ideas, the acquired reaction of asking for the toy for the innate reaction of grabbing hold of it. James was proposing no revolutionary educational method. He was, in reality, content to provide a physiological justification for methods that were already in existence. We can nevertheless suggest that in these talks we already find the guiding principle of the pedagogy John Dewey would later go on to develop, being that the meaning of education is in the *growth* of the individual, where this is understood

as the substitution for an immediate experience of an experience enriched by consideration of its consequences. Psychological growth, to James's mind, must reside in the extension of organic evolution: the latter, in the case of the brain, gave preference to the appearance of an increasingly complex and indeterminate nervous system which allows, not only a reflex mechanical reaction to a given excitation, but in fact a plurality of possible reactions to one and the same excitation. From an ontogenetic point of view, education involves also the enrichment of the child's innate inventory of instinctual reactions with a multitude of other possible reactions, whereby its faculty of free choice can emerge.

Concerning classroom education, the consequences are of two kinds. First, regarding the *form* of class work: if sensorimotor psychology be correct, then the general precept for class work is: "No reception without reaction, no impression without correlative expression" (1983a: 30). Verbal reactions to what the teacher says are insufficient, since the pupil can repeat an answer without having understood it. James instead encourages new methods which were already being introduced into schools: pupils should keep notebooks, draw plans, take measurements, carry out elementary experiments in chemistry or physics for themselves, as well as, of course, engaging in manual work. Which leads to a second type of consequences on the *nature of the curriculum*: the starting point must be the children's own interests, since it is these interests which make them react to one impression over another, and since the raw material for the educator is precisely these reactions. Some objects are inherently interesting for children and draw their attention. Thus, according to James, the challenge of teaching can be expressed like this: to succeed in sparking an interest in children towards objects which are not inherently interesting. Again, it is the psychology of associations which will enable us to bestow these latter objects with an interest borrowed from the first. It is therefore imperative to always begin with what is immediate, with what sparks interest naturally, like the stream running beside the school, rather than with abstract concepts about the water cycle; but the objective, in order for there to be progress, is to arrive at the idea of the water cycle starting from an examination of the stream, in an unbroken manner. Once again, it is a question of growth, in this instance of our interests, from our natural, immediate interest towards what is closest to hand, what is most concrete, onto what is most distant and most abstract. Thus, on this point too, James would be in agreement with Dewey in saying that to begin a class on water with a general definition of a river would be catastrophic from a pedagogical point of view. This pedagogical error could even be baptized the "pedagogue's fallacy", as a nod to the "psychologist's fallacy" denounced by James in *The Principles*, and which consists, for the psychologist, in confusing the point of view the examined individual has of an object with

the point of view the psychologist him/herself has of the same object. In matters of pedagogy, the positive principle of continuous growth must therefore be accompanied by a critical principle that consists of systematically avoiding confusion of the master's already-knowing point of view with the pupil's understanding-seeking point of view, in order, precisely, not to block a process of learning that is underway by presentation of a fully-formed understanding.

James was able to apply his biological conception of mind to domains other than education, notably to the hygiene of our lifestyles. We see him using his physiological theory of emotions to argue for a less stressful lifestyle, or to speak in favor of sport, for the feeling of self-confidence elicited by a body that is well-trained to react. How and ever, education remains the primary practical outlet for his biological theory of mind. Nevertheless, in his *Talks to Teachers*, he comes around to significantly minimizing the contribution of psychology to pedagogy and underlines the fact that an educational practice cannot be drawn directly and mechanically from a psychological theory: the intermediary of an educator capable of adjusting the generality of the theory to fit the particularity of each case encountered is required. Perhaps this was already a sign that he saw more immediate hope for the improvement of man's life in psychical research.

When he speaks of "psychical researchers", James includes both researchers in pathological psychology, such as Pierre Janet, who had swiftly distanced themselves from what could strictly speaking be called the psychical sciences, as well as those who were members of the *Society for Psychical Research*, such as Frederic W.H. Myers, who studied not only abnormal phenomena like hysteria and multiple personalities, but also supposedly supernatural phenomena like telepathy and mediumship. The point they all have in common is the assumption that the field of consciousness is not the beginning and end of mind, but that there exists, beyond the margins of consciousness, certain non-conscious states which do nevertheless genuinely exist and even act on normal consciousness. The work where James presents this idea in depth, from the sole point of view of pathological psychology, is the series of talks he gave in 1896 at the Lowell Institute of Boston on "exceptional mental states".[6] Beyond the wide variety of reported observations and hypotheses James discusses, we can isolate two broad practical consequences he intended to draw from such research. The first and most obvious to James's mind is the healing of certain psychical troubles up to then judged to be incomprehensible by psychologists, and

[6] Eugene Taylor (1984) compiled and introduced these talks using James's own preparatory notes. Today, the notes themselves can be found in the final volume of his complete works (James 1988). An up-to-date study on this part of James's works, properly situated in the international scientific context of this time, is to be found in Trochu (2015).

against which doctors were still powerless. In one of the first texts he wrote on the subject – an account of Pierre Janet's *L'automatisme psychologique* which he wrote shortly after its publication and which, also, he introduced into the United States –, he writes the following:

> And this leads me to what, after all, is the really important part of these investigations – I mean their possible application to the relief of human misery. […] [Psychical researchers'] work, as a whole, is sanctified by its positive, practical fertility. Theorems about the unity of the thinking principle will always be, as they always have been, barren; but observations of fact lead to new issues *in infinitum*. And when one reflects that nothing less than the cure of insanity – that direst of human afflictions – lies possibly at the end of such inquiries as those which M. Janet and his *confrères* are beginning, one feels as if the disdain which some spiritualistic psychologists exhibit for such researches were very poorly placed (James 1983b: 265).

The twofold nature then accredited to hypnosis, both a means of experimentation upon the mind and also, by the same token, a means of psychological medication, illustrates perfectly the necessary link evoked above with respect to the two types of practical consequences: on the very development of psychology as a science, on the one hand, and on the practical uses of scientific psychology, on the other. Because hypnosis, like the "pathological method", provided psychologists with equivalents to the experimental method in the field of psychic troubles. The "pathological method" considers disease as a kind of experimentation established, not artificially by the scholar, but by Nature herself, which thus enables us to understand, in contrast, the normal functioning of the human mind – thus the clinical study of hallucination, amnesia, and split personalities would grant understanding of, respectively, the functioning of perception, memory, the nature of the self, etc. (Ribot 1928: 300). But the interest of hypnosis was the ability to reproduce in the laboratory, under experimental conditions, phenomena of personality alteration that are difficult to study in their spontaneous form. It is precisely this means of investigation which, in the study of pathological phenomena, enabled the transition from simple clinical observation to experimentation, which is what, to the psychologists of the time, was the source of its great scientific value (cf. Binet 1982: 76). In reality, hypnosis is a tool for *simulating* pathologies: through suggestion, the psychologist can elicit anesthesia in a subject under hypnotic trance similar to the anesthesia of a hysterical patient, allowing an understanding of the psychical, rather than organic, nature of these now "auto-suggested" psychical troubles; through the phenomenon of post-hypnotic suggestion, it can also make a hypnotized subject act in a certain way after waking, following an order given during the trance, which allows us to understand that multiple

personalities are not successive and alternating but that the secondary personality must continue to exist, in an implied or rather subconscious manner, beneath the primary personality, and that it can intervene at any moment to modify the behavior of the individual. The reason why psychologist should now turn his/her attention not to a normal case under hypnosis but instead to pathological cases, is that hypnosis provides not only an experimental cross-check of the theory, but also, by the same measure, a means of healing. For example, by hypnotizing a hysterical subject, the doctor, using only suggestion, can bring back the sensitivity of an anesthetized body part in the waking state: the theoretical proof that the origin of the trouble is psychological and not organic is simultaneously a possible means of eradicating it in practice. Likewise, to submit a multiple-personality subject to hypnosis in his/her primary condition enables an artificial re-immersion in the secondary state, so that s/he may be able to unearth memories repressed in the primary state. Along with many of his contemporaries, James thought that hypnosis provided the means to controlling subconscious states through suggestion. For him, pathological psychology, and, more broadly speaking, "psychical research", are both forms of practical psychology, to the extent that they lean on the following principle: "seemingly abnormal forces may be used in redeeming mankind from some of its worst evils" (James 1988: 522).

The second practical consequence that James expected from this research is more general and perhaps also more important. James hoped that this research would lead to a transformation in how people looked at such patients. Because such investigations, he reckoned, make mental illnesses "more human" and less strange: "Above all a certain lack of fear [...] [seems] to be the best attitude we can carry in our dealings with these regions of human nature" (1988: 83). This is why, in all of these talks, he endeavors to assimilate an exceptional mental state with a state which seems more familiar to us, in order to show that there is a greater continuity than we might think between illness and health. This is, it might be said, the humanist virtue of Broussais's principle,[7] at the origin of the pathological method. Beyond the anecdotes where he reveals the germ of a pathology in each of us, like the compulsion to check and recheck that we have written the correct address on the letter before posting it, he sets himself the task of re-establishing a continuity of development in the spectrum of exceptional mental states, starting from an ordinary state, *viz.* sleep, the subject of the first talk. Hypnotism can be associated with sleep (it is a form of somnambu-

[7] French physician Broussais's idea that the difference between pathological and normal physiological states is a difference of intensity only and not a difference of nature was made into a general principle by Auguste Comte (cf. Canguilhem 2003: Ch. II).

lism); hysteria, in turn, can be associated with hypnotism (it is a self-hypnotism, spontaneous, not artificially provoked); split personality is an extreme hysteria whereby the dissociated subconscious states have reformed into a second personality. He does the same for still more spectacular phenomena: demon possession can be associated with a medium's trance (which is an extension of the split personality); and what mankind has called "witchcraft" can be explained by hysteria. The latter case is particularly illustrative: what was called the "witch illness" was in fact nothing other than the symptoms of anesthesia today considered to result from hysteria. Psychology as a natural science enables the naturalization of these strange phenomena that were thought of not as illnesses but rather as signs of supernatural intervention – a bewitchment –, so much so that exorcism for the victim and torture for the guilty party seemed to be the only known and recognized remedies. Thanks to the explorers of the subconscious, says James, we have "a rational understanding of this whole nightmare episode of our race's history"; "[the] fight", he adds, is "not against an imaginary Satan but the real devil of intolerance and ignorance" (1988: 76). These illnesses have no supernatural origin, they are simply exceptional. This same fear that our ancestors felt when faced with physical phenomena, and which was pushed back as we began to exert a level of control over them, must now be stamped out in the domain of psychological phenomena. It is therefore in modifying the image humanity has of itself, and in the conduct people manifest towards each other following this modification, that James places the greatest practical value of this psychological conception of the unconscious. Naturalizing mental troubles enables them to be integrated into a natural science in formation and also raises the hope that they may soon be treatable through natural methods.

4. *Conclusion*

This examination of James's principal works in psychology subsequent to the publication of *The Principles of Psychology* aimed to complexify the overly simplistic genealogy of pragmatism that is sometimes presented when it is supposed that this movement had its origin only in the philosophical text of the 1890s, *The Will to Believe*. Such a genealogy, if it claims to be exclusive, would always burden James's pragmatism with the suspicion that, in final reckoning, it was ultimately only a doctrine aimed at justifying religious faith against the inflated claims of science. I instead believe that the pragmatist way of thinking equally emerged during the 1890s, even within the conception James was building of psychology as a scientific discipline. It is therefore possible to distinguish two relations in his thinking between psychology and

pragmatism. The first, already explored, consists in showing that pragmatism as a philosophical method and as a theory of knowledge results from a pragmatist theory of mind, which casts all intellectual functions as instruments designed to make action more intelligent. The second, which I set out to present here, comes down to revealing a pragmatist conception of psychology itself as a scientific discipline. The first relates to the functionalist approach to mind, the second to the instrumentalist theory of science. James indicated how these two analyses related to each other when, in his talks to teachers, he underlined the fact that the biological conception of mind can find its meaning and value in educational reform. But he never attempted to systematize the relations between them. We could, however, see Dewey's work as just such an effort to derive, along a continuum, the instrumental conception of science from the functionalist analysis of mind, to the extent that, in his understanding, the experimental science which allows us to act upon our environment represents the most evolved product of life.

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