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Historical epistemology of the body-mind interaction in psychiatry

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Introduction

Two uncontroversial claims can be made regarding the “mind-body interaction”—namely, that although it remains an issue, it is debated less frequently than had been the case until now. In principle, the question of how mind and body (two “different” substances) communicate with each other should bother disciplines such as the neurosciences, psychopathology, psychiatry, psychology, and psychosomatic medicine. In practice, it does not seem to cause much conceptual distress. Probably, this has less to do with the possibility that practitioners have found a philosophical “solution” than with the fact that Cartesian dualism does not seem to interfere with the nature and statistical analysis of the variables chosen to map the putative relationship.

The interaction between body and mind does not seem to have been a problem at the time these concepts were first constructed.¹ Versions of these notions are already present in the work of Plato and Aristotle, but neither seems to have worried about how they communicated. Most historians agree that issues only appeared during the 17th century after Descartes redefined the ontological status of mind and body as *res cogitans* and

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This paper deals with the history of the relationship between the mind-body dualism and the epistemology of madness. Earlier versions of such dualism posed little problem in regard to the manner of their communication. The Cartesian view that mind and body did, in fact, name different substances introduced a problem of incommunicability that is yet to be resolved. Earlier views that madness may be related to changes in the brain began gaining empirical support during the 17th century. Writers on madness chose to resolve the mind-body problem differently. Some stated that such communication was not needed; others, that mind was a redundant concept, as madness could be fully explained by structural changes in the brain; and yet others described psychological spaces for madness to inhabit as a symbolic conflict. The epistemology of the neurosciences bypasses the conundrum, as it processes all together the variables representing the brain, subjectivity, and behavior and bridges the “philosophical” gap by means of correlational structures.

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res extensa, respectively. Four propositions (which cannot be all true at the same time) characterize the “problem”: (i) the mind is a nonphysical thing; (ii) the body is a physical thing; (iii) the mind and the body interact; and (iv) physical and nonphysical things cannot interact.^{2,3} For the problem to be resolved, one or more of the propositions need to be declared false. For example, one can change the ontological status of mind or body, or replace interaction with other forms of explanation (parallelism, occasionalism, etc).

Since the late 19th century, the debate as to what is the best solution has taken place in philosophy, psychology, and of late, the neurosciences.⁴ Alienists (now psychiatrists) kept a watching brief on these proceedings, but in general, Cartesian dualism was accepted by both the spiritualist and organicist psychiatric factions that characterized 19th century alienism in France, Germany, Italy, and to a certain extent, England. Later in the century, after following for a time a form of Jacksonian psychophysical parallelism, Freud also supported physicalism and monism.⁵ In this short paper, only a sketch can be offered of the concepts of “mind,” “body,” Cartesianism, and of the effect that Cartesian dualism had on the narratives of madness.

Body and soul (mind, spirit, etc) in history

Referents roughly corresponding to what currently is called “body” and “mind” can be found in Greek philosophy but with an ontological and epistemological definition different from Descartes⁶ and, for that matter, other philosophers. This means that mind and body can only be studied/understood in relation to specific cultural contexts. At the time of the Greeks, the backdrop must be a theory of the universe and a theology.⁷

Body

The referents of the Greek terms *sarx* and *soma* partially overlapped. Although *sarx* (flesh) was used on occasions to refer to the whole body, it mostly named parts thereof.⁸ *Soma* first referred to physical objects in general but later also referred to animate bodies, particularly when contrasted with “psyche.”^{9,10} Plato defined the body as a physical object acting as a prison for the soul: “so long as we have the body, and the soul is contaminated by such an evil, we shall never attain completely what we desire, that is, the truth. For the

body keeps us constantly busy by reason of its need of sustenance...”¹¹ This rather negative view changed with Aristotle, who considered the body more neutrally as a “sign” or “instrument” of the soul.¹² These early dualisms do not seem to have caused difficulty in regard to the manner of their interaction.^{13,14} Aquinas thought that mind stood to body: “as knower to object, as cause to effect, and as form to substance....”¹⁵ *Soma/sarx* went on to suffer semantic modification as they became incorporated into the European vernaculars.¹⁶

Mind

The concept of mind (soul, spirit, etc) is difficult to grasp due to its metaphorical origin (*Ψυχή* [psyche]) and ontological instability.¹⁷⁻²² Not surprisingly, historians have associated “mind” with a variety of explanatory theories.²³⁻²⁵ In Classical Greece *Ψυχή* meant rush of air, blow, breath, and later—by dint of metaphor—was used to name the soul, conscious self, the source of life, etc. However, its semantic field was not unlimited: “usually translated ‘soul’; it is better to stick to this dummy translation than to use such substitutes as ‘mind’, which in some contexts (the mind of a vegetable) may be absurd. A minimum...statement to which all philosophers would have agreed is...soul is that in virtue of which we are alive.”⁹ As against this warning, *Ψυχή* was to become ‘mind’²⁶ in preference to *nōos* (noos), a term used by Aristotle for intelligence, immediate awareness, intuitive intellect, etc.⁹ This is why “psychology” was derived from *psyche* and not from *nōos*.²⁷ In summary, referents for “body” and “mind” were already present in Classical Greece but mapped onto an ontological context that did not forbid their interaction.

Cartesianism

In the middle of the 17th century, Descartes returned to “body” (*le corps*) and “mind” (*l’âme*) but with an epistemological rather than ontological interest. There were three substances: God (increated and infinite), soul or mind (*res cogitans*: created, immaterial and thinking), and body (*res extensa*: material and extended). Different and independent from each other, body and mind together constitute man. God guarantees that the ideas of the mind and the things of the world correspond, thereby guaranteeing knowledge. How then the two substances interacted became a problem from the start. Descartes

broke with “the scholastic tradition by advancing an austere new mechanistic theory of the physical world; according to this theory, bodies intrinsically possess only geometrical properties. Descartes thus stripped the world of many properties which were formerly classified as unambiguously physical. Some of the properties which were left over from the new scientific picture of the world could be safely discarded; the powers, natures, and faculties beloved of the scholastics are obvious examples. But there were many other properties, such as secondary qualities, which could not be treated in this cavalier fashion; they had to be located somewhere, and Descartes invented a new concept of mind in order to accommodate them. Indeed, almost every genuine property which could not be counted as physical by the austere standards of 17th-century science was now reclassified as mental... The Cartesian mind [thus ended up collecting] disparate entities as concepts, thoughts, mental images, sense-perceptions, and sensations.”²⁸

As attested by the enormous scholarship that has since accumulated,^{29,30} Descartes’ epistemological rearrangement and obscurities contributed by others have created a difficult problem.³¹ Princess Elizabeth of Bohemia put it succinctly: “So I ask you please to tell me how the soul of a human being (it being only a thinking substance) can determine the bodily spirits, in order to bring about voluntary actions. For it seems that all determination of movement happens through the impulsion of the thing moved, by the manner in which it is pushed by that which moves it, or else by the particular qualities and shape of the surface of the latter. Physical contact is required for the first two conditions, extension for the third.”³²

Cartesian dualism and some “solutions”

Solutions can be listed according to the propositional skeleton of Cartesian dualism²:

1. The mind is a nonphysical thing (proposals have been made that the mind is not a substance at all but an emergent epiphenomenon, supervenience, or name for a property of matter).
2. The body is a physical thing (proposals have been made that the body is just a product of the mind).
3. The mind and the body interact (proposals have been made that there is no interaction but merely two systems chiming—like two clocks—one after the other giving the impression that one is influencing the other).

4. Physical and nonphysical things cannot interact (mind and body do not interact because they are names of properties of a unique material or physical substance).

These putative solutions have fared differently. Favored solutions are:

1. “Neutral monism,” ie, the view that the mental and the physical are just two different ways of organizing or describing the same basic stuff constituting the world.³³
2. Varieties of reductionism, eliminativism, physicalism, naturalism, etc, according to which the mind is reducible to the brain.³⁴⁻³⁷ An expression of this type of solution is Ryle’s “ghost in the machine” view of the mind.³⁸

Representationalism

Since classical Greece, the idea that we only perceive a representation of the world has survived well by developing new referents and explanatory devices. As it stands, it remains a central notion (and problem) in philosophy, as the view that man perceives reality via images, ideas, sense-data, etc, seems to assume a mind/brain epistemological structure.⁴⁰ Man, therefore, does not relate to the world (as noumenon) but to a representative of it (phenomenon).⁴¹ Both in classical Cartesian dualism⁴² and Lockean empiricism,⁴³ the mind requires a representation of the world. Now both these philosophical positions have been important to the development of the epistemology of the hard sciences,⁴⁴ neurosciences,⁴⁵ psychology,⁴⁶ and psychiatry.⁴⁷

In epistemological terms, representationalism resolves some problems and creates others. Within psychiatry, a good example would be the concept of hallucination as conventionally explained. In normal perception, the mind, a tabula rasa, is impacted by external objects and generates an image (idea) that is perceived by the mind. Illusions are defined as image that do not correspond with the object; hallucinations, as images without an object, that is, gratuitous or unfounded “representations.”⁴⁸

Representationalism also poses difficulties because it cannot explain the nature of the relationship between the “representation” and the object it represents⁴⁹: Is it one of similarity (like a small picture)? Is it symbolic (like an allegory or metaphor)? Is it perhaps a numerical map (like a matrix or computational representa-

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tion)? It is also important to know how stable the relationship is; as we cannot ever “see” the real world, we need reassurance that the proxyness involved is faithful, stable, true, steady, etc. It goes without saying that the search for mechanisms and the evaluation of the truth of the perception do depend upon the nature and quality of the relationship in question.

Descartes was a representationalist in that he believed that the mind dealt in ideas and that ideas “represented” the *res extensa*. He never explained what guaranteed the stability of the “representation,” but it is likely that he thought that it was God.⁵⁰ The secularization of European culture that started during the Enlightenment⁵¹ nullified this guarantee and other explanations were needed. The most common has been the claim that man is part of the world (nature) and hence his senses are attuned to perfect perception. The evolutionary theories that developed during the 19th century tended to reinforce this view by proposing mechanisms for such adaptation.^{52,53}

Cartesian dualism, science, and madness

Also called “metaphysical dualism,” Descartes’ proposal freed the human body from religious control and encouraged anatomical and physiological research.^{54,55} Incorporated into later philosophical systems (eg. John Locke’s),⁵⁶ it also influenced the science of his time and later years.⁵⁷ Descartes believed that, in practice, mind and body interacted freely and did not worry about the philosophical conundrum involved; later writers have taken a different view. However, it is unhelpful to talk about Descartes’ “error”⁵⁸ or “dogma”⁵⁹ because his dualism remains central to the epistemology of the neurosciences. To understand the influence of dualism on explanations of madness it will be useful to refer briefly to how Cartesianism fared within the main European psychiatric traditions.⁶⁰⁻⁶³

Up to the turn of the 20th century, differences can still be noticed between the main European psychiatric cultures, particularly in the way in which “mental disorders” were conceptualized. These dissimilarities are present in spite of the fact that genuine efforts were made after the 1850s to accelerate international and scholarly exchanges between alienists and also to uniformize lexicons and classifications. Unfortunately, wars and other vicissitudes kindled nationalistic sentiment and frustrated these efforts.

It is also the case that during most of the 19th century, philosophical systems and views on the mind and on evolution were different in Germany, Great Britain, and France. The rapid development of alienism (later psychiatry) as a profession and discipline needed a conceptual frame, and this was borrowed from ready-made systems of thought. So, differences in national psychiatric cultures often reflect differences in national philosophies and in the manner in which Cartesian dualism was managed in each country.

After being out of fashion during the Enlightenment, Descartes’ philosophy made a return during the 19th century. In France, “the wide range of philosophers who tried to use Descartes’ work illustrates the grand scale of his comeback. Religious motives, historiographical merits, psychological discoveries, and patriotism all provided reasons leading to the reinstatement of Descartes in France during the 19th century.”⁶⁴ Degérando, Laromiguière, Maine de Biran, Royer-Collard, Cousin, etc, were closer to Descartes’ ideas than their criticisms might let out. Alienists were part of this ferment. Esquirol attended Laromiguière’s lectures and knew of Degérando’s work; Antoine-Athanase Royer-Collard, was brother of Pierre Royer-Collard, the philosopher; and Maine de Biran’s ideas were built into the later development of French alienism.⁶⁵⁻⁶⁷

The impact of Descartes on 19th century German philosophy was part of the neo-Kantian revival.⁶⁸ Kant seems to have read only some of Descartes’ work, and there is agreement that his criticism of Descartes’ *cogito* is not altogether correct. “The Marburg School Neo-kantians regarded Descartes as a historical predecessor of Kant. Paul Natorp presented in 1882 a Kantian-type study of the essential Cartesian themes in his *Descartes’ Erkenntnistheorie (Descartes’ Epistemology)*; Hermann Cohen praised especially Descartes’s philosophical contribution to the founding of a ‘mathematical science’; Ernst Cassirer examined in his doctoral dissertation of 1899 Descartes’s epistemological foundation of mathematics and science.”⁶⁹

In Great Britain, Cartesianism fared differently in Scotland and England. Thomas Reid and other members of the so-called Scottish Philosophy of Common Sense opposed “the way of ideas,” an epistemological model that they attributed to Locke and Descartes: “Reid argued that the accounts of Descartes, Locke, and Berkeley fail to explain our acquisition of primary quality concepts. Reid plugs the gap with an appeal to

natural signs.”⁷⁰ In England, things are somewhat more complicated because throughout the 19th century, various philosophical doctrines vied for dominance. Descartes is barely mentioned in the works of Bentham, the Mills, Grote, Maurice, Newman, Martineau, and Spencer.⁷¹ However, Cartesianism reappeared after the late introduction of neo-Hegelianism⁷² and was incorporated into some forms of British idealism.⁷³

Cartesian dualism and explanations of madness

The conceptual options for Cartesian dualists writing on madness were not many:

1. accept or deny that the two substances (mind and brain) communicate in some part of the brain;
2. reduce mental illness to being just a disease of the brain; and
3. redefine mental illness as a symbolic conflict occurring in a new space (whether psychological, intersubjective, or linguistic).

It was this space that Heidegger had in mind when he wrote: “The justification of psychology consists only in its point of departure and in its taking the noncorporeal seriously.”⁷⁴ All options have been tried, but more research is needed to compare their therapeutic superiority. There is space here only for three illustrations:

1. conventional views on the relationship between brain disease and madness (neuropsychiatry);
2. theories on how the mind “causes” changes in the body (psychosomatic medicine and “psychogenesis”); and
3. the denial of interaction (Jackson’s “psychophysical parallelism”).

Conventional neuropsychiatry

The view that changes in the brain can lead to madness is old^{75,76} and is based on age-old observations that injuries to the head, ingestion of toxic substances, and in-born brain malformations are associated with changes in mind, awareness, and behavior.^{77,78} By the early 19th century, this view provided one of the main arguments for the medicalization of madness. Indeed, the same analogical arguments were used not long ago to justify the view that temporal lobe epilepsy provided a good model for the study of schizophrenia.^{79,80}

Not everyone agreed with this direct causality model. Writers holding the religious belief that the mind (soul, spirit) was not susceptible to disease challenged

the claim that the mental symptoms observed in patients suffering from acute brain disease were identical phenomena to those seen in real madness (insanity, lunacy, alienation, etc). For example, at the beginning of the 19th century, there was a debate on whether the hallucinations experienced by Nicolai, the Berlin bookseller, were the same as those reported by the madman Berbiguier.⁸¹ Baillarger also differentiated between “psychic” and “psychosensorial” (organic) hallucinations.⁸² Indeed, the debate has continued well into the 20th century between a unitary and binary view, namely, whether the psychotic psychopathology of schizophrenia or manic-depressive disease is the same as that seen in patients with brain tumors, Parkinson or Huntington disease, epilepsy, dementia, etc.^{83,84}

Psychosomatic medicine and psychogenesis

Although as an organized specialty psychosomatic medicine is only identifiable during the 20th century, the question of whether stress in the mind and emotions can produce pathological changes in the body is much older and can be found throughout history. For example, there are pre-Freudian,⁸⁶ Freudian,^{87,88} and post-Freudian⁸⁹ psychosomatic forms of explanation. Originally only a concern for medical experts such as cardiologists, gastroenterologists, and dermatologists, after the Freudian revolution, psychosomatic issues also became of interest to alienists. This explains why the relationship between psychosomatic medicine and psychiatry is not uniform throughout the world. In the United States, for example, the American Psychiatric Association considers psychosomatic medicine as a subspecialism of psychiatry; in Germany and France, it constitutes an independent specialism practiced by physicians; and in the UK, is almost nonexistent.

The concept of psychogenesis is central to psychosomatic medicine and psychiatry. Unfortunately, both its meanings have gone out of fashion.⁹⁰ Since before the 19th century, “psychogenesis” had referred to the process whereby the soul (and later the mind and personality) was constructed.⁹¹⁻⁹³ During the 19th century, psychogenesis started to refer to the mechanism whereby the mind can generate mental disorder.⁹⁴⁻⁹⁸ Sommer used the word “psychogenie” to name a subgroup of disorders that hitherto had fallen under the collective name hysteria.⁹⁹ The mechanisms explaining psychogenesis have also changed according to the psychologi-

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cal theory in fashion. They can act directly on the body or via structures such as the personality. Of late, efforts have been made to naturalize the concept of psychogenesis, ie, to identify its underlying brain mechanisms.¹⁰⁰

Jackson and concomitancy

John Hughlings Jackson borrowed his philosophy of mind from Fisk, Spencer, and Clifford^{101,102} and went on to influence Janet, Freud, Ribot, Dumas, and Ey.¹⁰³ Jackson believed that the mind had no capacity to influence anything, so a symmetrical, causal interaction with the body was out of the question. Mental and body phenomena were to be considered as concomitant or parallel to each other: The late Professor Clifford wrote: “I may very well say that among the physical facts which go along at the same time with mental facts there are forces at work. That is perfectly true, but the two things are on utterly different platforms, the physical facts go along by themselves, and the mental facts go along by themselves. There is a parallelism between them, but no interference of one with the other.”¹⁰⁴

Likewise, in the Croonian lectures: “The doctrine I hold is: first, that states of consciousness (or, synonymously states of mind) are utterly different from nervous states; secondly, that the two things occur together - that for every mental state there is a correlative nervous state; third, that, although the two things occur in parallelism, there is no interference of one with the other. This may be called the doctrine of concomitance. Thus, in the case of visual perception there is an unbroken physical circuit, complete reflex action, from sensory periphery through highest centers back to muscular periphery. The visual image, a purely mental state, occurs in parallelism with—arises during (not from)—the activities of the two highest links of this purely physical chain; so to speak, it ‘stands outside’ these links. It seems to me that the doctrine of concomitance is, at any rate, convenient in the study of nervous diseases. It, or an essential similar doctrine, is held by Hamilton, J. S. Mill, Clifford, Spencer, Max Muller, Bain, Huxley, Du Bois Raymond, Laycock, Tyndall, Herman and David Ferrier. Those who accept the doctrine of concomitance do not believe that volitions, ideas, and emotions produce movements or any other physical states...”¹⁰⁵

Mercier wrote “as to the relation between body and mind, Dr Jackson was a convinced, and even dogmatic, parallelist. He said once that if he could be convinced of

an interacting dualism he should abandon the study of the nervous system; his implication being that dualism means the negation of law. All expressions that imply interaction or community of nature between body and mind, such as ‘psycho-motor’ or ‘center for ideas’, he called ‘scientific blasphemy’.”¹⁰⁶

Jackson’s views were criticized by Morton Prince: “I cannot help suspecting that Hughlings-Jackson has not completely grasped the full meaning of this problem. To group together Hamilton, Clifford, Spencer, Bain, Huxley, and Tyndall, to say nothing of the others, as holding essentially the same doctrine, is to my mind much the same thing as putting Salisbury, Gladstone, Chamberlain, and Labouchere into one political boat, and saying that they hold essentially the same opinions. If one does not see the essential difference between the opinions of Clifford and Huxley, one can scarcely have a clear idea of the matter.”¹⁰⁷ Solutions of the mind-body problem based on parallelism and concomitance were not new. It is understandable that Jackson had not sought support in the work of Leibniz,¹⁰⁸ but it is surprising that Clifford did not either. One explanation may be that by 1874, Clifford had abandoned his religious beliefs and was unable to accept divine preordination as a solution. Instead, he resorted to an evolutionary explanation.¹⁰⁹ Of Clifford’s parallelism, Bradley wrote: “You cannot by making use of a formula, such as ‘psycho-physical parallelism’—or even a longer formula—absolve yourself from facing the question as to the causal succession of events in the body and the mind.”¹¹⁰

Conclusion

This paper has presented a bird’s eye view of the history of the concepts of mind and body and their semantic evolution and interaction. In classical times, the manner of the ontological attributes of mind and body allowed for their free communication. Descartes changed all that by proposing that they were constituted by two entirely different substances.

During the 17th century, conventional medical theory started to firm up the view that madness (mania, melancholia, frenzy, etc) resulted from changes in the brain. One of the consequences of Cartesian dualism was that the mind per se could not become diseased, and this caused some difficulty to the brain theory of madness. In the event the problem was variously bypassed: some alienists proposed a different ontological

structure for both body and mind; others suggested a form of functional psychophysical parallelism or concomitance. Since the 20th century, the availability of statistics has allowed for the joint analysis of variables representing mind and body, and the correlational maps

obtained have been used as evidence that the old Cartesian ontological gap can be bypassed. □

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Epistemología histórica de la interacción mente-cuerpo en psiquiatría

Este artículo aborda la historia de la relación entre el dualismo mente-cuerpo y la epistemología de la locura. Las primeras versiones de dicho dualismo plantearon poco problema en relación a la manera en que ellas se comunicaban. La perspectiva cartesiana de que el cuerpo y la mente designan, de hecho, diferentes contenidos introdujo un problema de incomunicabilidad que aún no se ha resuelto. Durante el siglo XVII comenzaron a aparecer los datos empíricos que dieron sustento a los primeros planteamientos acerca de la relación entre la locura y los cambios cerebrales. Autores interesados en la locura decidieron resolver de diferente manera el problema mente-cuerpo. Algunos plantearon que dicha comunicación no era necesaria; otros, que la mente era un concepto redundante, ya que la locura podría explicarse totalmente por cambios estructurales del cerebro. Incluso, otros autores describieron espacios psicológicos para que la locura habitara como un conflicto simbólico. La epistemología de las neurociencias evita el enigma, al procesar juntas todas las variables que representan el cerebro, la subjetividad y las conductas, y une el hiato "filosófico" por medio de estructuras que se correlacionan.

Épistémologie historique de l'interaction corps-esprit en psychiatrie

Cet article traite de l'histoire des relations entre la dualité corps-esprit et l'épistémologie de la folie. Les versions antérieures d'une telle dualité ne posent guère de problème quant à leur façon de communiquer. L'idée cartésienne que le corps et l'esprit désignent, en fait, différents contenus, a mis en place un problème d'incommunicabilité qui n'est pas encore résolu. Au XVII^e siècle, des données empiriques ont soutenu l'existence d'un lien entre les maladies mentales et des modifications du cerveau. Des auteurs s'intéressant à la folie ont choisi de résoudre différemment le problème corps-esprit. Certains ont trouvé qu'une telle communication n'était pas nécessaire ; d'autres, que l'esprit est un concept redondant, les troubles mentaux pouvant être complètement expliqués par des changements structurels du cerveau ; et d'autres encore ont décrit l'espace psychologique de la folie comme un conflit symbolique. L'épistémologie des neurosciences contourne le dilemme en traitant ensemble toutes les variables représentant le cerveau, la subjectivité et le comportement et comble le vide « philosophique » par des structures en corrélation.