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ORIGINAL ARTICLE

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"Never sacrifice anything to laboratory work": The "physiological psychology" of Charles Richet (1875–1905)

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Abstract

Whilst best known as a Nobel laureate physiologist, Charles Robert Richet (1850–1935) was also a pioneer of scientific psychology. Starting in 1875 Richet had a leading role in the habilitation of hypnosis, in the institutionalization of psychology in France, and in the introduction of methodological innovations. Authoring several psychology books, Richet's works contributed to the recognition of the scientific nature of the discipline. This role is often underplayed by some historians and psychology textbooks in favor of his later position as a proponent of the controversial discipline he christened *metapsychics* in 1905, which today lies within the province of parapsychology. In this article, we show how his psychological approach guided by physiology, or *physiological psychology*, facilitated the reception of psychology. We hypothesize a strong continuity between his physiological psychology and his metapsychics, as he himself considered metapsychics as an advanced branch of physiology, and thus also an outpost of psychology.

1 | A MULTIFACETED MAN

> *The science of life merges with the science of thought, and I foresee for the future magnificent horizons* (Richet, 1933, p. 156).

The figure of Charles Robert Richet (1850–1935) has already been the subject of several works that have focused on one or another of his multiple facets[1]. Psychology was only one chapter of his work. During the

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commemoration of the centenary for his Nobel Prize at the *French Academy of Medicine* (Van Wijland, 2015), a discussion of his physiological works included: temperature regulation in animals, gastric juice and digestion, lactic fermentation, serum therapy, botanic physiology, and his discovery of anaphylaxis for which he was awarded the Physiology or Medicine Nobel Prize in 1913. Other speakers analyzed his efforts to improve the international communication of scientific works, especially through the *Revue Scientifique* which he edited from 1878 to 1902; his patriotic pacifism; his adhesion to eugenics (see later discussion on "The internal dissymmetry of an 'amateur'"); his pioneering work in aerospace, including monoplanes with Tatin and the gyroplane with Breguet; his varied literary work; and finally his role in the establishment of "métapsychique" (*metapsychics*) (Richet, 1905b).

Variously perceived as a Jack of all trades or as a genius able to span various disciplines (Estingoy, 2003), psychology historians Carroy, Ohayon, and Plas (2006, pp. 56, 57) depict Richet as the most striking case of "duplicity," since he had both a scientific career and a literary/dramatic one under the pseudonym of Charles Epheyre, sharing his dreams and thoughts on science, society, and the paranormal. We might go further and say it was more a striking case of *multiplicity*, for Richet was the perfect example of a Renaissance man.

Passionate about science, Richet devoted his life to research where his governing principle was "never sacrifice anything to laboratory work" and in 46 years he accumulated some 50,000 h of experimental research (Richet, 1927b, p. 63). He claimed to have never missed a single day at his physiology laboratory, except for two or three months annual vacation he allowed himself (Richet, 1933, p. 138). By 1900 he was already author of over 400 scientific publications[2], nevertheless allowing himself excursions into other fields during his holidays. The considerable scientific reputation he had accumulated since 1875 had beneficial effects on all the work he undertook (Marmin, 2001b, p. 154), especially in the then still nascent discipline of psychology as it strove for scientific recognition and distinction from *psychical research*, or what we now call parapsychology following Max Dessoir's coining of the term in 1887.

For figures like Richet, standing at a fork in the road where conventional science and the parasciences part company, retrospective bias falsely divides an otherwise unified journey by illuminating the parapsychological and overshadowing his contributions to psychology. The relationship of these two now separate disciplines is rarely mentioned in textbooks of psychology or literature covering the history of the subject (McClenon et al., 2003). Exceptions are frequently biased and unbalanced, with Richet's contributions to psychology often missing or misattributed, as in: Mueller (1976); Braunstein and Pewzner (1999); Carroy et al. (2006); Lecadet and Mehanna (2006). The sole biography on Richet came from the American physician Stewart Wolf (1993), an improvised historian for the occasion, who failed to make the point that Richet's metapsychics was part of his physiological psychology. Until the recent commemorative conference documented by Van Wijland (2015), French specialists disseminated their work only through rare articles and unpublished academic works (Estingoy, 1993, 1996, 2003, 2005; Marmin, 2001a). According to Plas (2012), most psychologists do not want to have anything to do with parapsychology since they believe it would put their hard-won scientific status into question.

Recently, the German historian Andreas Sommer (2013, 2014) emphasized the contrast between a conventional history in which pioneers of psychology are sanitized of any "occult influence," and modern historiography where the parallel development of psychology and parapsychology shines new light upon the history of ideas. Sommer's *integrative* or *symmetrical* approach reveals a "strong albeit clandestine historical continuity" (Sommer, 2013, p. 12) between the orthodox and heterodox psychology. Examining Richet's physiological psychology allows us to restore rather than cleave the historical continuity. His heuristic project to found a "new psychology" was attractive at a time when psychology was still very heterogeneous and in the process of becoming institutionalized. But this ideal and unattainable horizon of a marriage between life and thought sciences was later rejected in force. This rejection is often based on Richet's "wanderings" in the field of psychical research, including his explanation of clairvoyance, telepathy and precognition by a physiological sixth sense (Richet, 1928), or his description of ectoplasmic materializations having both physiological and psychological characteristics (Richet, 1922). This article attempts to clarify Richet's contributions in psychology and how his metapsychics could be seen as a strict application of his scientific agenda.

2 | ENTER CHARLES RICHET

Our symmetrical approach reveals a second division of another kind, for Richet was attracted equally to science and literature, as will later become apparent. While a student at the *Lycée Bonaparte*, and before deciding to follow his father into medicine, he had been much taken with a branch of Victor Cousin's eclectic philosophy, namely the psychology of the faculties of the soul.

During his medical training he attended courses by Claude Bernard (1813–1879), Alfred Vulpian (1826–1887), Étienne-Jules Marey (1830–1904), Marcelin Berthelot (1827–1907), Charles Adolphe Würtz (1817–1884), Charcot, and Jacques-Joseph Moreau de Tours (1804–1884). But loyalty to his father had its limits, and he opted for physiology rather than surgery to become a doctor of medicine in 1877 with a thesis entitled *Recherches expérimentales et cliniques sur la sensibilité* [Experimental and clinical research on sensibility]. In 1878 this interest in experimental physiology was followed by a doctorate in sciences and diplomas in anatomical, physical, and natural sciences. By 1881 he was head of a physiology laboratory before acceding to a professorship of physiology at the *Faculty of Medicine* in Paris, which he held from 1887 until 1925. His ascent was swift on all levels.

Under a *Third Republic* of decidedly anticlerical inclination, his intellectual journey was marked by fruitful meetings and prolific correspondence with both the intellectual elite of the day and with other pioneers of psychology, including Théodule Ribot (1839–1916), Pierre Janet, Jules Soury (1842–1915), Victor Egger (1848–1909), Léon Marillier (1862–1901), and Henri Piéron (1881–1964). But there were also contradictory areas to his private and public life where we might call his subjectivity into question. He was an agnostic, for example, with a distrust of both the religious sphere and mysticism (Si Ahmed, 2013), and yet was briefly a member of the *Cosmos Lodge of Freemasonry*. Then again, he was passionate about metapsychics and any enigmatic and unexplored areas of science, but he was also a member of the Honorary Committee of *the Rationalist Union*, an activist organization struggling against pseudo-sciences.

In truth Richet had so many paradoxical facets to his character that it seems almost impossible to bring them into a coherent whole, but this is really an indication of the complexity and ambiguity of his psychology. In fact, he attempted to reconcile classical positivist science with the new science of psychical research, taking as a starting point a methodological scepticism toward all dogmatic interpretation of any kind.

As an operative hypothesis, we may understand his physiological psychology work, quite neglected nowadays, as a springboard for the investigation of what he called the "future psychology." Throughout his entire life Richet was a staunch supporter of this project, which ultimately became more or less absorbed into *metapsychics*, the term he adopted in 1905 during his presidential address at the *Society for Psychical Research* (SPR) (Richet, 1905b). But he failed to prevent the institutional disassociation of psychology and metapsychics, two disciplines whose association seems paradoxical nowadays. Neither Richet's absence at Rome for the *Fifth International Congress of Psychology* in 1905, nor the "episode of the villa Carmen" (see Evrard, 2016; Le Maléfan, 2004; Richet, 1905a), are unconnected with the rift between Richet's project and the emerging modern psychology, which developed along various lines of fracture in the decades to come.

3 | MAGNETISM, INDUCED SOMNAMBULISM, AND HYPNOSIS

3.1 | A magnetic personality

In his *Souvenirs d'un physiologiste* [*Memories of a Physiologist*], Richet (1933, pp. 147–156) tells the tale of how "occult psycho-physiology" crossed the threshold of his life. But let us not be fooled by these Freudian *screen memories* of an autobiography reconstructed as an afterthought late in life by a man fully converted to metapsychics (Alvarado, 2018), nor indeed by his taste and talent for literary and dramatic portrayal.

At 18 he had witnessed a séance conducted by the hypnotist Cannelle who had *magnetised*, as the saying then was[3], his beautiful wife and rendered her insensible to bodily feeling. Such private viewings were common since stage performances had been rejected into popular culture. The séance led Richet to think: "there may be some truth amidst so many grimaces" (Richet, 1887a, p. 545). Later, at home, Richet began magnetizing a friend of his sister, whose eyes closed after a few *passes* and temporarily would not reopen. Stunned but fearing parental wrath, they kept silent upon the matter.

Richet subsequently resumed his experiments in the service of professor Louis Béhier of the *Hôtel-Dieu*, and between the ages of 19 and 22 magnetized patients suffering from minor ailments, albeit with curiosity rather than therapy in mind. Satisfied of his "very clear hypnotic power," Richet organized his internship as a veritable "Cour des Miracles" (Richet, 1933, p. 149). On one occasion he demonstrated his gifts to a young American colleague by putting a teenager called Adrienne under hypnotic state and asking her to guess his colleague's name, of which she correctly spelt out four of its five letters, stumbling upon the middle one. Richet's reaction clearly shows his sceptical resistance of that time to the anomalous cognition phenomena previously called "magnetic lucidity" or "clairvoyance":

> Alas! Alas! I refused to admit the reality of this great experiment. It should have convinced me that lucidity exists. But I neglected it. Is it not sad enough that *we only see what we are used to seeing and what we want to see*?
>
> My blindness in 1872 makes me more indulgent of those whom today, despite the overwhelming evidence of lucidity we are bringing to them, obstinately continue to deny it (Richet, 1933, pp. 148, 149; his italics).

He formulated a general law from this specific case and other instances, stating that scientists, in their noblest approach, remain persons with a restrictive cognitive openness. Habits, prejudices, and expectations play an active role in observation. The psychological conditioning of that time clearly intervened against our young physician, for his director forbade him to practice hypnosis in his service.

And so Richet would have to wait for an externship in the service of Professor Léon Le Fort at the Beaujon before he could resume his little experiments during his duties at the hospital. Although neglecting *lucidity*, he accumulated so much material that he planned to publish it and reopen the case of *animal magnetism* through hypnosis, despite the scorn and indignation with which these subjects were then received. Revealing the plan to his father provoked an immediate reaction:

> "You wish therefore to waste yourself?"
>
> "Is one wasted in telling truth?"
>
> "You are right," he replied after long silence, "do as you will" (Richet, 1933, p. 150).

His father Alfred, professor of surgical pathology at the *Paris Medical School* and member of the *French Academy of Medicine*, well knew how careers were made and broken. But he could not betray the scientific ideal he had instilled into his son, no more than he could forget his friendship with Paul Broca, who fifteen years earlier had confronted the *French Academy of Sciences* for the very same fight (Broca, 1859; Brower, 2010, pp. 21, 22). Richet the younger made a noisy entrance upon the scientific stage and soon established his reputation.

3.2 | Induced somnambulism

In July 1875 Professor Charles Robin accepted Richet's article *Du somnambulisme provoqué* [On provoked somnambulism] in his *Journal de l'anatomie et de la physiologie normales et pathologiques de l'homme et des animaux* [*Journal of normal and pathological anatomy and physiology of man and animals*]. Here was a 25-year-old student defying his teachers! We see the flame already animating Richet, and from his very first words the self-styled hospital intern praised the virtues of the true scientist:

> It takes some courage to utter aloud the word somnambulism. The stupid credulity of the general public and the effrontery of some charlatans have given such a bad reputation to the topic that, among scientists, there are few who welcome without disdain a discussion about it. However, I slowly formed a conviction, supported, I believe, on solid evidence, and I will report my experiments and present them to the judgment of physicians and physiologists: my task will be very difficult, given the poverty of the current scientific documents and the complexity of the phenomena: thus it deserves to be considered with indulgence (Richet, 1875, p. 348).

The words he chose say much: *Induced somnambulism*[4] implies the field of experimentation, entailing controlled conditions directed by an experimenter without the aid of instruments. It is crucial for his argument that somnambulism appears as a transient disorder of the central nervous system and of external origin. This is the price to pay for integrating somnambulism into the general framework of the experimental medicine of the time. Historians note: "Somnambulism was about to appear on the scientific scene as a respectable physiological or pathological fact without any reference to wonders or simulations" (Carroy, 2001, p. 53). Richet also categorically argued that a taste for the marvellous was the prerogative of the ignorant and the inexperienced. Acknowledging he never found the purported lucidity described by several generations of hypnotists, he quickly assimilated it to a complex intellectual phenomenon unrelated to the hated "supernatural" (Richet, 1875, pp. 352–371).

By skillful choice of vocabulary, Richet aspired to describe but not interpret, thereby distancing himself from the *magnetic* and *fluidic* theories popularized by many charlatans. This is fully consistent with the approach recounted of his mentor Claude Bernard: "When you enter the laboratory, put your theories in the closet with your overcoat. But, he added with a smile, you can pick them up when you leave" (Richet, 1933, p. 129).

In his article, after reviewing certain principles of scientific progress, Richet argued that hypnosis should primarily be recognized as a tool for psychological experimentation. In 30 pages, he painstakingly analyzed the state of consciousness and especially the behaviors of hypnotic subjects. He described the phenomena and the techniques used to obtain them, thus allowing others to replicate his findings if they wished. According to Richet, induced somnambulism was a privileged vantage point for studying four groups of invariant psychological phenomena: hallucinations, hyper-ideation, automatism, and abolition of memory (Estingoy & Ardiet, 2005).

Richet successfully made his patients hear various sounds, music, and conversations, and was able to cause the most diverse taste sensations with a glass of cold water and make disagreeable drinks palatable. His subjects' astonishing lack of critical thinking about their manifestly absurd or fantastic visions opens the door for our psychological understanding of hallucinations and delusions. On this occasion, historians write:

> He introduces the term "neurosis," already used then in the medical nomenclature in the sense of disease of the nerves. Induced somnambulism would therefore trigger a temporary neurosis, conducive to the analysis of intellectual phenomena and of intelligence as a whole. Always by analogy with certain monomaniacal patients, the author declares that if "reason is certainly perverted, intelligence is vividly excited." In support of numerous examples, the author thus reveals that hyper-ideation, the cornerstone of manic excitement, belongs to the register of induced somnambulism. It

> also emphasizes the exacerbation of emotional expression, sadness as well as joy, during suggestions (Estingoy & Ardiet, 2005, p. 347).

Hypnosis is therefore a tool of choice for a *pathological psychology* (Ribot, 1880) that would illuminate the normal by emphasizing the abnormal and pathological. While Pavlov would later use the term *experimental neurosis*, Richet preferred the expression *magnetic neurosis* or even *psychic vivisection*, using hypnosis to regress subjects toward a reflex psychic activity ordinary inhibited by the higher functions of the brain, thereby making it possible to see and operate the intellectual mechanisms in the same way physiologists study the organic machine. In this sense, experimental hypnotism would be inseparable from what Marcel Gauchet (1992) called the "cerebral unconscious," the hypothesis of a psychic activity made up of *automatisms* and *mechanisms* that escape the conscious will of the subject. Finally, regarding the therapeutic effects of hypnosis, Richet exercised caution:

> As to the therapeutic effects, I think they are very limited. The surgeons have renounced an aesthetic procedure of so difficult and inconstant a use, and the wonderful cures reported in the magnetism's journals must not be taken too seriously. However, I believe that in some cases, practiced in moderation, magnetism can have an indisputable effectiveness (Richet, 1875, pp. 362, 363).

3.3 | Poisons of intelligence and experimental hypnotism

Richet's approach to the effects of drugs upon physiology and psychism echoed that of an *alienist* physician of the *Salpêtrière*. Returning from extensive travels East, Jacques-Joseph Moreau de Tours (1804–1884) wrote a book concerning hashish and mental alienation, and which from the outset stated its empirical ideal: "Here the *criterion* of truth is experience" (Moreau de Tours, 1845, p. 4; his italics). Magnifying, according to his Eastern peregrinations, the recurrent experimental use of hashish at variable doses, he presented a paradigmatic means of exploring mental pathogenesis:

> I persuaded myself that through it one should be able to be initiated into the mysteries of alienation, to go back to the hidden source of these disorders so numerous, so varied, so strange that we are accustomed to designate them under the collective name of *madness* (Moreau de Tours, 1845, pp. 29–30; his italics).

Attentive to facts rather than their interpretation, he postulated a primordial fact of physiological modification characterized by excitation, hence considering the disintegration of ideas as indicative of a paroxystic expression generating mental disorder. He referred to other studied poisons, such as nitrous oxide, opium, alcoholic liqueurs, and narcotic substances; drafted a proposal for therapeutic trials; and also defended the similarity betwixt dream and madness. Much of this thinking appeared in Richet's article of 1877, where Moreau de Tours is presented as his "excellent master."

Another important influence of the time was undoubtedly Claude Bernard (1813–1878), widely considered the founder of experimental medicine, and who had advocated the use of poisons as experimental instruments. Here their therapeutic or esthetic potential is neglected in favor of their scientific use, and, as with hypnosis, are administered to both human and animal subjects.

Richet continued this type of research with his work on other "poisons of intelligence," such as hashish, alcohol, opium, chloroform, and coffee (Richet, 1877). Following an initiation at Moreau de Tours' home, where dinners were arranged and concluded with the taking of hashish and other substances, Richet dived into the depths of his intoxicated psyche. He will keep the memory of "extraordinary evenings" where the intoxications have

transported him to infinite and phantasmagoric spaces, amplifying or decreasing his sensations (Richet, 1920, Memoires III, p. 281; see also: Carroy, 2015).

Thereafter, employing his subjectivity as an instrument of exploration, he variably dosed himself with hashish and observed "the hypertrophy of ideas" (Richet, 1887a, pp. 122, 123). And so he fashioned experiential bridges between somnambulism, intoxication, and mental illness, using what we might call a *subjective science*, whereby the conscious perception of both inner *noumena* and outer *phenomena* is used to chart the way. And since no toxic agent or organic mechanism can be identified in the case of somnambulism, he was able to question purely medical explanations for madness.

Richet's denomination of intelligence is not Binet's IQ of later decades, but the higher faculties of mind that exceed the more inferior productions generated by the reflexes and the organs of external sensation. In his article "The Poisons of Intelligence" (1877), Richet hypothesizes a poisonous action upon the brain affecting both sensitivity and movement through a "predominant but not exclusive action," and where overexcitation leads ultimately to destruction. Thus alcohol, hashish, opium, and coffee disturb not only the intellectual functions of will, attention, memory, and imagination, but also the "unconscious faculties." Concerning alcohol, he referred to different kinds of drunkenness and isolated some psychological symptoms, such as fixed ideas and their rapid succession. He also noted that the will and the attention diminish in parallel with intellectual overexcitation.

Disinterested in the actual causes of poisoning, Richet primarily examined psychological effects and symptoms such as *hyperideation* and the delirium of drunkenness, but without disregarding the set of secondary effects at the physiological level upon the organic structure of the heart, muscles, and lungs. Toxic effect upon motility, blood circulation, and organic function was therefore investigated along with that upon sensitivity and intelligence. Among his many sources Richet quoted a few alienists: Valentin Magnan (1835–1912), Alexandre Brierre de Boismont (1797–1881), Jules Baillarger (1809–1890), and of course the unavoidable Moreau de Tours.

This study reveals the function he assigned to psychology at that time, by his opinion that it consecrates the positive data provided by the three sciences of anatomy, physiology, and pathology (Richet, 1877, p. 833). While examining the effects of opium he had noticed a change in *hyperaesthesia* or sensibility. Insofar as the will was asleep, the individual would witness the frolics of the imagination. In his exchanges with Moreau of Tours on the subject of hashish, Richet had insisted on the exaggeration of feelings reinforced by an absence of will, as well as altered perceptions of time and space. He proposed a resemblance to hysteria, exemplified by the parallel between hashish's illusions and systematic delirium. He spoke of "unconscious work" growing in size while the active, conscious, and voluntary ego faded away.

Richet also identified a "duality in the ego." On the one side are conscious voluntary faculties, originating from habits and hereditary forces and playing a *leading role*; and the other side are the imaginative and conceptual faculties that *elaborate* ideas. The precarious balance of mental functions is broken by the ingestion of toxic substances, and the consequent alteration in control causes a chain of psychological operations. An absence of direction causes difficulty in conception, which leaves illusions and hallucinations free to appear.

The bridge between "poisons of intelligence" and actions of hypnotism was largely discussed by Richet. For him, *magnetic neurosis* or experimental hypnotism, with features similar to somnambulism, strategically illuminate the phenomena found in induced states of intoxication and in the morbid expression of neuroses. In this way Richet probes links between somatic and psychic phenomena according to their consistencies and inconsistencies (see Richet, 1875, table, p. 378). He observes natural sleep, somnambulism, states induced by chloroform, hysteria, and epilepsy, as well as drunkenness, hashish, and manic excitement—all within the sole context of psychological phenomena.

While *partly* departing from the methodological framework advocated by Moreau de Tours, his debt to him is clear in terms of methods of investigation at the border between the psychological and the physiological. According to Richet, the intellectual activity of hypnotized subjects was deprived of external sensations and therefore "intracerebral," as Moreau of Tours would say, through the generation of intelligence disorders. This was "transitory madness" characterized by illusion, hallucination, and error.

Whatever option Richet adopted, the varied phenomena Richet observed had therapeutic applications, especially in the Salpêtrian school of Charcot and Janet, but his theoretical sketches also had an impact upon his contemporaries. Because identity may change or become multiple under hypnotic influence, the study of personality becomes the study of personalities, leading to his *objectification of types* (1883). And hypnotic induction had an air of stagecraft, with subjects playing roles and seemingly changing character. In his major work of 1870 and based upon the example of a spiritualist séance, philosopher Hippolyte Taine had already proposed a model in which the human brain is: "… a theatre in which, at the same time, are played several different pieces, on several scenes of which only one is under the light" (Taine, 1883, p. 16).

A new plural view of the individual was on its way and hypnosis helped to shape it. This plasticity of the personality, which Richet enjoyed observing from every angle and objectified into a great variety of *types*, was taken up by those who wished to make hypnosis a therapy, such as Hippolyte Bernheim (1840–1919), Janet and, for a while, Freud. The practice consisted of changing the personality of the patient when they expressed dissatisfaction or suffering from addiction to smoking, phobias, trauma, etc.

In an analysis of the full significance of Richet's seminal article of 1875, and a trifle over enthusiastically perhaps, two modern authors conclude:

> Written by a cultivated but non-specialist student, it brings together in a precursory synthesis the set of possibilities concerning the various explanations of psychic functioning. Even if quite naive, this globalizing vision introduced psychosomatics as well as psychodynamics, cognitivism as behaviourism, toxicology as pharmacology. Consequently, its scope overrides the manifest content as an invitation to our ability to wonder at new ideas.
>
> This point of historical detail illustrates how the dynamics of scientific thought are constantly confronted with the points of fixation of sclerosing theories. To open the doors, you sometimes have to turn around, but also dare to look beyond our distressing certainties (Estingoy & Ardiet, 2005, p. 350).

In a further work Richet (1880c) extended his observations by applying hypnosis to animals and, again having to fight scientific prejudice, sought to explain the hypnotic behavior as a deceptive masquerade between the hypnotist and his subject. Appealing that the testimony of scientists be respected, Richet expected to avoid suspicion of complicity or deception. He used the same argument again for later studies considered heterodox by his contemporaries.

3.4 | The habilitation of hypnosis

The great Pierre Janet would later pay retrospective homage to Richet in claiming his work on hypnotism was the most interesting of that time (Janet, 1919, p. 151). In addition to the famous rivalry between the Salpêtrière, founded by the physiologically inclined Charcot, and the more psychological tradition at Nancy founded by Bernheim, Janet spoke of the "third school of Richet" (Janet, 1919, p. 182). This hypothetical school (Carbonel, 2008), which he localized around 1880, should have focused on the investigation of suggestion and hypnotism to explicate psychological laws. Among its independent members, he listed: Frederic W.H. Myers (1843–1901), Edmund Gurney (1847–1888), Stanley Hall (1844–1924), Paul Julius Möbius (1853–1907), Julian Ochorowicz (1850–1917), Auguste Forel (1848–1931), Henri-Étienne Beaunis (1830–1921), Alfred Binet (1857–1911), Charles Feré (1852–1907) and… Pierre Janet himself. While its members' viewpoints are too diverse to identify a true ideological community (Alvarado, 2009), we note this putative school included individuals whose interests extended to both hypnotism and psychical research.

While not leading a school as such, Richet was no longer alone in 1880. Physicians were investing in the field, including the famous Charcot who had reintroduced hypnosis into his lectures in 1878 and then into the *Academy of Sciences* in 1882, 40 years after its rejection of magnetism (see, e.g., Binet & Féré, 1887). The aura of the great neurologist undoubtedly had more impact than the article of the young student, but what influence had the smaller upon the greater? Neuropsychiatrist Pierre Thuillier (1993, p. 136) thought Charcot too busy with academic duties to read Richet's publication but such ignorance seems implausible. Richet (1933, p. 150) himself believed the twin influence of his own article and a demonstration by Charcot's extern, the "powerful hypnotist" Albert Ruault, convinced Charcot to adopt hypnosis though not declare his influences.

According to Mucchielli (1998a, p. 129), Richet took a very clear physiological turn to follow the pace of research then in vogue by following Charcot and his disciples with *retrospective medicine* (Littré, 1872), using medical discourse to reinterpret old ambiguous cases. He thus revealed how the lascivious postures of hysterical patients ("today demoniacs") at the Salpêtrière corresponded to the images of possessed women of olden times ("old demoniacs") (Richet, 1880a, 1880b). Richet was using a positivist approach, which he applied to the study of hysteria and somnambulism: identifying the psychological symptoms of hysteria, he showed that demonic affectations are not satanic influences but are linked instead to the problem of somnambulism.

Demonic epidemics therefore originate from a kind of nervous contagion by imitation (Richet, 1880b, p. 861). There would indeed be a relation between hysteria and sorcery, but the latter was accounted for by an "effect of the imagination" when going to a Sabbath and resulting from "universal credulity." Finally, Richet reduced mystics to deceivers, such as Louise Lateau who had claimed not to have eaten for long periods and who had been diagnosed by Désiré-Magloire Bourneville, a far-left republican, as a typical case of "serious hysteria" (Lachapelle, 2004).

From a psychological point of view, Richet forged a differential diagnosis: he distinguished *madness*, in which intelligence is profoundly affected, from *hysteria* which is more akin to a form of character than a disease of the intelligence. In hysteria he finds an overexcited intelligence, enhanced memory, and an extremely vivid imagination, while the will's impotence to curb passion engenders "unconscious memories, unknown reminiscences" (Richet, 1880b, p. 568). Finally, in connection with grand hysteria, which is part of Salpêtrian orthodoxy, he identified different phases: anesthesia (diabolical marks), convulsive attacks (demonic variety), and delusion.

Charcot never recognized what he owed to Richet, which some historians interpret as a sign of rivalry (Sharp, 2006, p. 133; Wolf, 1993, p. 27). Showing no rancour, on the 100th anniversary of Charcot's birth, Richet stated in the *Progrès Médical*: "Although one tends sometimes to contest some of the facts (on hypnotism and hysteria) which he has brought into full light, what he has observed is correct. The facts cannot, in spite of the violence of the critics, be questioned" (Richet, 1925, p. 793).

During a decade Richet established himself as a precursor, using a classical rhetoric to depict his detractors "as laggards, frozen in their conceptions, stuck in dusty traditions and incapable of seeing what was to be seen" (Collins & Pinch, 1993, p. 156). This same scapegoat status appears again during later metapsychic controversies where, perhaps with facility, he accuses opponents of *neophobia* (a term he preferred to Lombroso's "misoneism"; Richet, 1920, Mémoires IV, p. 133), a tendency to reject scientific novelty without examination by refusing to make the intellectual effort necessary to free themselves from habit. He identified neophobia as "the enemy of science" but also as a tendency which is difficult to restrain (Richet, 1920, Mémoires IV, p. 133).

3.5 | Works on the intelligence

Historically, Richet (1887a, p. 546) locates his hypnotism in what he calls the "contemporary period," which began with his first publication of 1875 that followed the era of Mesmer & Puységur and then Braid. In 10 years he had published many articles on the subject…

> … showing a certain freedom of tone and a certain independence, in spite of his formation and his location in Paris… The essence of Richet's conceptions of hypnotism is presented in *L'homme et l'intelligence* published in 1884, frequently read, highly debated, and even considered a manifesto of the 'new psychology' (Marmin, 2001b, p. 152).

L'homme et l'intelligence [*The Man and the Intelligence*] (Richet, 1887a) was his first of two important books in the field of psychology, and drew upon anthropology, physiology, alienist medicine, neurology, philosophy, demonology, history, and ethology. It unwraps a positivist program under the auspices of physiology and evolution, with psychology defined as the science of intelligence, the higher forms of which originate in simple reflex actions (Marmin, 2001b). Despite the huge success of the book, whose title paid tribute to Taine's founding book *De l'intelligence* (1870), Richet refused to publish a new edition because scientific progress has quickly outdated it (Richet, 1920, Mémoires V, p. 10).

Richet attempted to anchor the complexity of psychological phenomena in the simple and testable *psychic reflex*, a derivative of the physiological reflex arc. His book is an assemblage of fragments of physiology and psychology with the aim of transforming psychology into part of nervous physiology. The table of contents shows a progression from the most physiological and orthodox to the most psychological and heterodox. It starts with pain, the causes of disgust, the poisons of intelligence (alcohol, chloroform, hashish, opium), and then it covers induced somnambulism, modern demoniacs, old demoniacs, and finally the King of Animals.

This physiological basis is developed in several postulates. Richet took the example of a simple physiological phenomenon—the strong and brief excitation of the sensibility of a nervous cell—that would cause a "vibration" with a indefinite and latent "prolonged reverberation" that immediately modifies the constitution of the "psychic nerve cell." It also configures two types of memories, one called fixation, the other called evocation; and states what will become one of his dogmas: "without memory, no conscience" (Richet, 1887a, p. 89). Lastly, let us also note the link he established between the sublevel of consciousness and intellectual faculties, rendered salient by the use of hypnosis: "among the insane, among the somnambulists and in other particular states where there is both intelligence and unconsciousness, I have observed… the absolutely preponderant influence of words on the direction of ideas" (Richet, 1887a, p. 111).

Richet added to this synthesis, which collected several of his previously published psychological works, over a hundred pages of hitherto unpublished notes and observations in appendix (pp. 455–560), which added to the different chapters presenting often daring explanations, sometimes accompanied by hypotheses. For illustrative purposes, he discussed various topics such as the influence of movements on sensations and ideas, reflex psychological actions, the common points of different delusions, unconscious memories and their role in character formation, the action of temperature, asphyxia, and anemia on intelligence, exorcisms in modern times, and some epidemics of demonopathy. It appears to us that Richet, whose work in psychology is indicative of the primacy of the experimental method, here confirms his supportive position insofar as he offered a set of facts, even if fragmentary in character, but likely to advance research in this new discipline still full of promises.

At that time, Richet's physiologically dominant approach is by no means marginal. According to Plas (2000, p. 17), "physiology goes through the whole history of psychology, and it is a persistent temptation of contemporary psychology to tend to be confused with physiology; a contemporary example is the present prestige of the neurosciences in its eyes." For instance, Richet was very close to formulating classical conditioning, before Pavlov, as he demonstrated in 1878 a psychic reflex that produced an abundant flow of pure gastric juice on a fifteen-year-old boy known as Marcellin. With a form of remorse but without getting into a quarrel of priority, Richet (1920, Mémoires IV, p. 62) wrote that this part of his doctoral thesis was "insufficiently noted," and first by himself.

In 1887 Richet published his second book, *Essai de psychologie générale* [*Essay of general psychology*] (1887b), which synthesized the physiological psychology of his time. The expression *general psychology* is a mirror of *general chemistry*, while the psychic reflex is an organic response to external sensory stimulation and the starting point to begin a logical study of the mind. General psychology as a science of intelligence is underpinned by the three

interpenetrating psychic forces of instinct, ideation and intelligence itself, thereby categorizing intelligence in general into *latent*, *unconscious* and *conscious* forms respectively. The intellectual apparatus is further categorized into memory, consciousness, and will.

The scheme is set within a *general law of evolution*, ranging from the *physiological* to the *psychological*, that is, from elementary actions and reflexes to the complex phenomena of human intelligence, with the nervous system functioning as the seat of psychic activity. Richet employed a triune methodological framework:

(1) *Introspection*, characteristic of eclectic philosophy and based upon inner observation but limited to the facts of consciousness or the ego.
(2) *The examination of living beings*, ranging from animals to humans.
(3) *Experimentation*, the scientific approach par excellence and favored by the author.

The book's conclusion may be considered a manifesto for a new psychology: "Consciousness has emerged from unconsciousness. Who knows if other forces will not yet emerge?" (Richet, 1887b, p. 192).

We observe how Richet's work in psychology, championing the primacy of the experimental method, proffers a set of facts of a fragmentary character held likely to advance research in a new discipline still full of promise. What then is this new psychology on which Richet raises the veil?

4 | RICHET AND THE NEW PSYCHOLOGY

4.1 | From society to Congress

In 1885 Richet co-founded the *Society of Physiological Psychology* ("Société de psychologie physiologique," SPP) with Ribot and Marillier, with himself as secretary. The Parisian society was one of the first psychology institutions in France[5] and followed the model of the British SPR, founded in England in 1882 to study psychology, hypnotism, and psychical research (Gauld, 1968).

Richet and the Polish scientist Julian Ochorowicz were the society's instigators, psychologists Ribot and Janet its vice presidents, and Charcot president on the proviso, according to Ochorowicz (1916, p. 5; quoted by Domanski, 2003), that the word *physiological* was added to distinguish members from spiritists claiming to be "psychologists" in the belief they studied the soul. The objective of the SPP was the study of both normal and pathological psychological phenomena, based on observation and experimentation.

We note its members came from diverse fields, being physiologists, neurologists, alienists, philosophers, and men of letters; and debates were sometimes intense between schools with competing theories. The methodology was rigorous but experiments did not always control for suggestion, repeatedly using the same subjects and with the predetermined agenda of curtailing explanations that converged upon the marvellous.

In its first year the SPP hosted a communication by Janet that was to become famous and concerned experiments conducted with the somnambulist Léonie Leboulanger, who seemed able to enter hypnosis and obey suggestions from her hypnotist while spatially separated from him (Evrard et al., 2018; Plas, 2000). Richet communicated similar observations and contributed research on the topic (Richet, 1886, 1887c, 1888a, 1888b, 1888c, 1889). Employing various somnambulists as subjects, he worked at least as much as Janet with the famous Léonie whom he brought to Paris. He formulated four tentative hypotheses: chance results; voluntary simulation; unconscious or involuntary simulation, related to autosuggestion; and actual remote influence. Dismissing the first two, he retained the others but without deciding definitively.

On the occasion of the centenary of the French Revolution, the SPP organized the first international congress of psychology in Paris. The idea came originally from Ochorowicz (1881) in an article published in the *Revue philosophique de la France et de l'Étranger* [*Philosophical journal from France and abroad*] in which he established an

inventory of psychology, calling for those who had renounced metaphysical explanations to unify their terminologies, classifications, and methodologies (Nicolas & Söderlund, 2005). Richet took over the project in the belief a congress could be held during the historic universal exhibition of 1889, although his colleagues were slow to consent (Nicolas, 2005, p. 47).

This first congress was called the *International Congress of Physiological Psychology*, because, according to Nicolas (2002, p. 148), the physiological label "merely allowed questions of speculative philosophy to be excluded from discussions and to give a scientific basis to the new discipline". And of course it was organized under the aegis of the eponymous society, of whom 10% of delegates were members and a good many joined the international standing committee organizing the next congress.

The event was a success, 203 members representing 20 nations gathering in Paris for 6 days in summer. Richet was the principal facilitator of the discussion sessions and dealt with many aspects of the organization (Le Marc & Pétard, 1992, quoted by: Marmin, 2001b, p. 156). In his speech as general secretary, he delineated three general topics: statistical study of hallucinations, including veridical ones; statistical study of heredity; and study on terminologies relating to hypnotism to guarantee a scientific language.

Henry Sidgwick, philosopher and cofounder of the SPR, recorded in his diary the happy impression that "the ingenious Richet" had organized the congress to glorify the SPR (Sidgwick & Sidgwick, 1906, quoted by: Alvarado, 2011, p. 80). Sidgwick took the opportunity to invite delegates to London for the forthcoming *Second International Congress of "Experimental Psychology* in 1892. Richet presented there a noteworthy paper entitled *The Future of Psychology*, associating the subject with the field of physiology and again insisting on "the bond that unites the mind and the body" (Richet, 1892a, p. 25), which to him seemed always obscure though credible since nerve cells conditioned the existence of intelligence. He then demarcated three investigatory fields of psychology for a forthcoming program of scientific endeavor:

- *Physiological Psychology*, here we see an inversion of terms that reinforces the option advocated by Richet.
- *Comparative Psychology*, studying relations between men by examining the criminal and insane, and aspiring from an evolutionary perspective to perfect the human soul "through a sort of natural selection" (Richet, 1892a, p. 25).
- *Transcendental Psychology*: studying the "extraordinary resources" inherent in human intelligence to test and scientifically explain phenomena as disparate as clairvoyance, thought transmission and presentiment.

In 1900 Richet took another important institutional role in the organization of the *Fourth International Congress of Psychology* in Paris at which the *Institut psychique international* [International Psychic Institute] was launched, soon to be renamed the *Institut général psychologique* [General Psychological Institute], with Janet and himself as presidents (see Brower, 2010; Janet, 1901). Thus he played a major role in the first French psychological societies and the first international congresses of psychology held in France.

Nevertheless, Richet eventually criticized his project of a "new psychology" when he found it, ultimately, reductive and infertile (Richet, 1927a), estimating that psychology as then constituted would discover no great novelties (Plas, 2000, p. 153). In 1891, Richet had accepted to cofound the *Annales des sciences psychiques* [*Annals of Psychical Sciences*], beginning the process of emancipating metapsychics, gradually evacuating it from its psychological host (Alvarado & Evrard, 2012).

5 | METAPSYCHICS: THE FUTURE OF PSYCHOLOGY?

At the second congress in a context favorable to psychical research, and now again at the 1905 *Fifth International Congress of Psychology* in Rome in a setting hostile to both spiritism and to metapsychics, Richet recognized that the future of psychology could not limit itself to detailing previously explored areas (Richet, 1892b, 1906a). But public expectation of a promising talk for the inaugural session of the congress was frustrated by cancellation due to his ill health.

Richet's text, marked by an optimism not without strategic aim, suggested that the various disparate tendencies of social, esthetic, physical, physiological, psychiatric, and occultist aspects of psychology had now merged! Two major directions of psychological science remained to be explored: *physiological psychology*, founded to probe the still elusive links between soul and body, alternatively defined as thought and brain; and secondly, *occult psychology*, substituted by the term *metapsychics* since it was less imbued with pejorative and unscientific associations. Both projects were still closely linked in his discourse.

Richet adopted his pioneer role from that first youthful article of 1875, when he had incorporated induced somnambulism into the group of psychological phenomena, now doing the same for the metapsychical phenomena of ghosts, premonitions, and telepathy. He wrote: "Two true facts do not contradict each other, and if the contradiction is apparent, it is the fault of our ignorance" (Richet, 1906b, p. 604). While advocating avoidance of bedazzlement by the "science of the past" to conceive a "science of the future," he identified the duty of science as being hardy in assumptions and prudent in assertions, concluding: "The future is for the audacious."

But a double misfortune intervened: not only was Richet absent from this congress, but his undelivered lecture was misunderstood by most of his peers, further reinforcing his isolation. A few months after the congress, his participation in the controlled study of a medium producing "ectoplasms" in Algiers became the subject of the scandal known as "the episode of the villa Carmen" (Evrard, 2016; Le Maléfan, 2004). Richet took stereoscopic pictures and applied physiological tests on the breath and hair of the so-called ectoplasm, in conditions he later recognized as scientifically insufficient, in the context of a notorious spiritist circle, creating a confusion between his positivist findings and the spiritist claims that he rejected vigorously. His supposed credulity was the brunt of much criticism, which contributed to the rejection of metapsychics in public and scientific eyes alike. But this did not prevent him developing his *future psychology* on the margins of an already instituted psychology with international recognition, as his thirst for discovery urged him to scan the *psychical* horizon.

Beginning in June 1914, he organized monthly dinners with Henri Bergson (1859–1941), Eugène Osty (1874–1938), Camille Flammarion (1842–1925), Jean-Charles Roux (1872–1941), Joseph Maxwell (1858–1938), Albert von Schrenck-Notzing (1862–1929), and others to discuss metapsychics. In 1919 he accepted the honorary presidency of the Institut métapsychique international [International Metapsychical Institute, IMI] devoted to scientific research of so-called paranormal phenomena (Lachapelle, 2005). In 1927 he became president of the *Third International Congress of Psychical Research* held at the Sorbonne.

That same year his third book was published, *L'intelligence et l'homme: études de psychologie et de physiologie* [Intelligence and man: psychological and physiological studies] (Richet, 1927a). He took somewhat the opposite side of his work of 1884 by reversing the terms in its title and subtitle, placing "psychology" before "physiology" and "intelligence" before "man." A compilation of articles and conference presentations, more philosophical essay than empirical study, this book discusses links between language and intelligence, certainty, memory, fear, morality, self-control, and courage.

Under normal physiology, Richet placed his 1924 lecture from the *International Congress of Physiology in Edinburgh*, which treated "the non-sensory paths of knowledge and the experimental method." He presented examples of the "subjective metapsychics" of clairvoyance and telepathy, while avoiding both premonition and the phenomena of "objective metapsychics," in order not to administer his readers "a too strong dose of revolutionary poison" (Richet, 1927a, p. 209).

It should be noted that the chapter *Conditions of Certainty*, which is based on a lecture given to the SPR in 1924, is full of insights on the cognitive obstacles in the scientific investigation, that we can understood as a fragmentary form of what will one day become the cognitive dissonance theory of Festinger et al. (1956). Richet used examples of reactions to the development of aviation and to the unusual phenomena of metapsychics. The historian Brian Inglis (1977) pointed out that Richet was not only the theoretician but also the perfect example of "retroactive dissonance," which touched many enthusiastic observers of allegedly paranormal phenomena.

In 1929 Richet became president of the IMI and remained so for the rest of his life, being the main organizer and representative of the psychical movement. Plas has compared him with William James and Ochorowicz, both

pioneers of psychology in their own countries before moving on to other occupations while keeping psychical research among their interests.

> It is clear that Ochorowicz and Richet found psychological science somewhat disappointing and that it did not answer to what they expected from a positive science of the mind. It is likely they echoed an opinion more or less consciously shared by others, in France or elsewhere (Plas, 2000, p. 154).

This "science of the mind" has indeed frustrated more than one researcher, since it gave birth to a mouse: the mind/spirit of psychologists had nothing of the immortal soul of the spiritualists, nor of the force opposable to matter of the magnetists. But Richet was driven by his own motivations and as a scientist needed continuous stimulation. His eclectic mind could not content himself with one domain and he spent his life fluttering in myriad directions.[6] As soon as one discipline seemed established, and an enigma appeared to be resolved in its broad outlines, Richet moved on, using scientific method to clear up another jungle. Less a taste for controversy than a passion for exploration, his spirit alighted with the same intensity upon each new object of fascination: aviation, Esperanto, peace, physiology, history. He did not seek an official career in psychology or become a "specialist" as is the norm today. Unlike Piéron, he did not seek to have psychology recognized as a legitimate science nor as a profession. His aim was quite different:

> Just as the explorer sinks into the dark continent with no other thought than to go further, so the scientist, great or small, in face of the innumerable mysteries that seem to bar the way to human intelligence, has no other idea than to move forward (Richet, 1923, p. 12).

Was it a lack of modesty or competence on his part that prevented him from seeing the latent discoveries that remained in orthodox psychology? During his studies of the physiology of dogs, did he not miss the discovery of the conditioned reflex because he focused his attention elsewhere? He blamed himself:

> We see only what we seek to see. Absurd! Absurdish! Because we must look at everything that happens, even when we do not expect it, especially when we do not expect it. One is as though obsessed by his idea and one unfortunately only considers what one wants to see (Richet, 1933, p. 23).

6 | THE INTERNAL DISSYMMETRY OF AN "AMATEUR"

Traditionally, as etymology reveals, an *amateur* pursues their pastime as a labor of love, uncaring of pecuniary gain or laurel crowned recognition. Yet despite his psychological work, historians of this discipline continue to call Richet "a physician fond of psychology" (Plas, 2000, p. 16), viewing him an amateur, perhaps even a gifted one (Carroy, 1993, p. 116), alongside "professionals" such as Janet and Binet (Plas, 2000, p. 145). Is this retrospective judgment justified?

Richet's historiography places historians in the face of the necessary obligation to stand out from his "scientific racism," a process that may have contributed to the underestimating of his role in psychology. Richet defended a mixophobic protective racism, especially in his book *La sélection humaine* [The Human Selection] (Richet, 1919), where he expected that an authority, on the basis of rational elements, would forbid the inferior or abnormal races to bear children (not their elimination). Moreover, he also insisted not to harm the people of any "races" (he even condescendly called them "sympathetic"), and called for selective protection of the white race he believed to be superior (especially for their intelligence), proposing the banishment of miscegenation (Estingoy, 1999). The historian of science, André Pichot (2008), has shown that eugenic ideas were dominant to varying degrees in the late

nineteenth and early twentieth centuries in the very same academic and intellectual circles that criticize them today. Several canonical 'founders' of psychology like G. Stanley Hall and James McKeen Cattell were also supportive of eugenics. Judging Richet's eugenics in light of later Nazism leads to anachronisms and absurd amalgams but there remains an ambiguity about his supposed anti-semitism throughout his intellectual journey and his stance is not always clear (La Vergata, 2018). The historian Anne Carol (1995) considered that, as Richet was far from the only scientist to have shared these ideas, it is improper to make him an exemplary case, to use history to judge or demonize him. On this point alone, his diagnosis of "the decline of the society" appears to correspond to a widespread feeling since the 1870 defeat, and this pessimism was exacerbated by the "butchery" of the First World War, during which he lost a son. We could argue that it is more as a scientist, pushing the biological reasoning to its extreme, that Richet proposed extremely radical solutions supposed to stop any "degeneration"… If his ideas on the subject are not excusable, he should not be reduced to them. Nevertheless, Richet's eugenicism constituted another serious obstacle to the appreciation of his work (Estingoy, 1999).

Canadian philosopher Ian Hacking (1988) acknowledged Richet's pioneering role in introducing probability theory to test divination through playing cards in 1883 (Richet, 1884, 1893). These studies were followed up in England the following year by Gurney (1884) and by Lodge and Lodge (1884), attracting the attention of many researchers, including the famous biologist and statistician Ronald Aylmer Fisher (1930). Eventually this methodology formed the basis of Joseph Banks Rhine's repetitive protocols used for decades to accumulate statistical evidence of extra-sensory perception in American universities (Mauskopf & McVaugh, 1980).

Similarly, Richet's leading roles in the first institutions of psychology and the first international congresses were already recognized in his day. Sociologist and historian Laurent Mucchielli (1998b) insisted Richet was one of the main medical figures involved in the institutionalization of psychology, which he considered the "mother of all human sciences" (Richet, 1906b, p. 593). Henri Piéron (1949, p. 561) recalled that Richet, like him, was "as much a psychologist as a physiologist," specifying they had worked together on a test for the therapy of mental diseases using carbonic narcosis.

What troubles historians is the way Richet gradually shifted from colleagues and initial conceptions (Osty, 1936). And how do we distinguish an "amateur" from a "professional"? Our retrospective demarcations risk that contamination we inherit from when psychologists became professionalized and set up internal and external boundaries (Evrard et al., 2018): orthodox researchers of old are now professional, while the heterodox at best are amateurs, perhaps even heretics (Alvarado, 2012; Sommer, 2014). And even if such distinctions could be argued, is not an amateur researcher equally capable of contributing to a scientific discipline?

If one understands metapsychics as a discipline distinct from psychology, it is fair to say Richet moved away from the latter and sought to go "beyond" (Plas, 2000, p. 145). But if one considers its autonomy relative, because metapsychics works at the frontiers of psychology and cannot do without its knowledge and methods, then this distancing is less apparent. Metapsychics, previously transcendental psychology, was for Richet another branch of psychology, as was physiological and comparative psychology. For some, his research activities in psychology and metapsychics "share the same *libido sciendi*" (Carroy, 1993, p. 116).

Methodologically, Richet's proposals were extremely relevant and Plas (2000) was not mistaken in perceiving the role psychical research played in developing methodology later appropriated by laboratory psychology. This little known fact is logical enough, for metapsychical phenomena are so defined as to exceed the usual parameters of space and time, transgress certain laws of matter, and circumvent the most sophisticated experimental protocols. Consequently, they forever demand an increase in control and the creation of tailor-made barriers to eliminate all prosaic hypotheses, thereby forcing science to progress by taking into account all the biases of subject, experimenter, context, targets, protocol, randomization, and so forth. Several historians of science have identified the fertility of heterodox hypotheses for orthodox methodology (Lachapelle, 2011; Brower, 2010). Thus, the double blind condition was introduced for the first time into a scientific framework by Benjamin Franklin to verify, by means of a headband tied around their eyes, whether persons sensitive to animal magnetism were truly able to distinguish a magnetized tree from an unmagnetized one (Schwartz, 2005).

Ultimately Richet's whole enterprise was shaped by an oft used formula having set himself the task of "de-occulting the occult" (Richet, 1908). This is a two-sided process: the *positive work* of scientifically proving when the nucleus of phenomena are genuine; and the *negative work* of knowing just as rigorously when they are not (Evrard, 2016). We mention this sceptical facet of Richet not only for symmetry, but to show the complexity of a character too often presented through only his unconventional convictions, sometimes even through a supposed unbounded credulity. It would seem Richet had no cause to envy the sceptics of his time, yet despite all that process of scientific filtering, he sometimes ended up pronouncing in favor of the existence of unexplained phenomena. This balanced portrait is hardly tolerable, for how can a scientist be both orthodox and heterodox, a champion of scepticism and enthusiasm alike?

Commentators have often resolved this paradox by inventing an *internal dissymmetry*, viewing Richet as two men with alternating and incompatible attitudes. This was the chosen solution of Wilhelm Wundt (1832-1920) who was himself both a physiologist and psychologist. In *Hypnotismus und Suggestion* [*Hypnotism and Suggestion*] (1892) his vindictiveness against "occult investigation" is confronted with:

> … the most scrupulous researches made in this direction… these are the "Experimental studies made in the field of the transmission of thought and so-called clairvoyance" by Charles Richet… whose solid work in physiology already make him very deserving… [and who is, moreover,] full of sagacity (Wundt, 1892/1893, pp. 16–18).

Nevertheless, he placed Richet's statistical work with mental suggestion, implying that the transmission of thought or "magical action at a distance" is probable, among the disturbances generated by the "practice of the 'problems of occultism'" (Wundt, 1892/1893, p. 18). In short, when a reasonable man sustains senseless assertions, it is because his judgment is affected by a mysterious evil, an evil easily contracted when venturing into certain shadows. Richet did not fail, as an afterthought, to criticize Wundt's prejudices during his lecture on "The future of psychology" at the fifth congress in Rome (Richet, 1906a). But it was already too late because academic psychology had bifurcated in the direction of a restricted and reductionist version of the physiological psychology which was part of the larger program promoted by Wundt (Araujo, 2016).

Wundt's division does not explain why Richet sometimes found himself on the side of occultists and sometimes on the side of sceptics. While continuing psychical research, toward the end of his life he even became an honorary member of the *Rationalist Union*, the first French militant organization founded in 1930 to fight against pseudosciences. In any case, such a division argument will be massively used against Richet following his notorious materialization experiments at the villa Carmen (Richet, 1905a; see Le Maléfan, 2004).

In the final chapter of *Memories of a Physiologist*, Richet (1933, p. 154) wrote that he had "analysed and treated the occult sciences according to the severe discipline of classical sciences." Such a formula cultivates the equivocal and arouses in some readers' minds a blurring of the boundaries between metapsychics and occult sciences (Richet, 1908). This same ambiguity may be found in his works of literary fiction under his pseudonym Charles Epheyre (Richet, 1934), where his scholarly characters in contact with the occult also question this duplicity. One possible solution is the personal choice not to choose between science and literature made in his youth (Carroy, 1993, 2004, 2011). In fact, in a hurry to choose between both, he promised to remain independent until his death (Richet, 1920, Mémoires IV, p. 23).

7 | CONCLUSION

> *This beautiful new science, even though it is still embryonic and so can barely be called a science, is the science of the unusual* (Richet, 1933, p. 154).

The history of parapsychology in France has often focused on the figure of Charles Richet, a prestigious scientist, Nobel Prize in Physiology 1913, who was associated with all attempts at institutionalization in this field (Marmin, 2001b). However, although his role is not negligible, it cannot be taken as representative of the research and opinions of all the other protagonists (Evrard, 2016). From his controversial positions and his harangues against orthodox scientists emanate a very conflicting vision of the field he sought to empower under the name of "metapsychics." Is it not the effect of his particular antidogmatic relation to knowledge?

This focus on Richet as a parapsychologist scotomizes his original approach as a psychologist. He is still neglected compared to figures like Binet or Janet and does not appear in many history of psychology texts. Retroactive attributions based on his internal dissymmetry or on his supposed amateurism—problems already raised in the history of science (Alvarado, 2012; Sommer, 2014)—were some of the arguments used to downplay his influence since Wundt's 1892 anathema against both hypnotism and psychical research. Wundt's own physiological psychology followed a reverse path from Richet's (Sommer, 2013), but this contextual bifurcation of academic psychology also tells us that things could have been different. A parallel can be drawn with William James, in the American context, who appeared as the second "founding father" of modern psychology, while also one of the most active psychical researchers in line with Richet in many methodological regards despite their different academic background (Trochu, 2018).

The interplay of physiology and psychology guided Richet toward a physiological psychology which is very compatible with the use of psychoactive substances, of hypnosis (Oakley & Halligan, 2013), but also, seemingly, with anomalous phenomena (e.g., Williams, 2015). But he remained marginal at his time with his approach integrating psychophysiology and psychical research, as he was stuck between those who criticized his claims on the reality of some anomalous phenomena, and those who were dissatisfied by his rejection of the survivalist hypothesis and his lack of real explanatory concepts (Lachapelle, 2011). His interpretations of phenomena like crypesthesia and materializations as having both physiological and psychological measurable characteristics opened a door for a paradigm very far ahead of its time.

One may wonder why, in 1905, Richet shifted from one *strategy of integration* of the scientific study of anomalous phenomena as part of the practice of (future) psychology (as in the SPP and the General psychological institute), and another *strategy of emancipation* (as with the IMI and the *Annals of psychical sciences*). His choice of independence through the renaming of his project with the neologism *metapsychics* illustrates both his disappointment vis-à-vis the direction taken by academic psychology and his conquering personality. He, somehow, precipitated the divorce between psychology and para-psychology in France, following his attempt to supplant a psychology he considered infertile and neophobic. This is not a sufficient reason to neglect his work in psychology as, in the same vein, William James had doubts about the value of psychology but not about the value of psychical research (Hunt, 1993).

If Richet chose to explore a "beyond" of the psyche, he first constructed his work on the basis of his psychological and physiological work on the mind. We have therefore studied the hypothesis of a continuity between his two fields of interest, as claimed Richet himself (1920, Mémoires IV, p. 115). Richet came to psychology through hypnosis, but it was also hypnosis that opened the door to the phenomena of "mental suggestion" and "remote hypnotism." He fully participated in the habilitation of hypnosis while sharing the prejudices of his time. In Richet, as well among a number of other late 19th century pioneers, we see competing visions of the forms and directions "experimental" psychology might take, manifesting in both personal and cultural struggle. Several elements attest that he was not predestined to work in the direction of an "occult psycho-physiology." If he had followed this last path, it is not without having previously published a certain number of empirical works on various mental faculties (fear, disgust, courage, memory, intelligence) and certain psychophysiological phenomena (psychoactive drugs, suggestions, and automatisms). He missed the discovery of the conditioned reflex for which Pavlov would receive a Nobel prize, and he did not sufficiently formalize the laws of cognitive dissonance that condition the relationship to certainties. But he nevertheless managed to introduce methodological improvements that advanced experimental psychology (double-blind,

probabilities) as a research area. In parallel with his recognized institutional role, Richet was the author of several works on the mental faculties which show the evolution of his "psychology." The philosopher Henri Bergson was not be mistaken when he wrote, in a letter (13th February 1927) addressed to Richet: "I will read the psychological book [*The intelligence and the man*, Richet, 1927a] that you tell me about. You have been in these matters, as in many others, an initiator" (Bergson, 1927).

For all these reasons, Richet deserves, in our opinion, to have a place among the important figures of the beginnings of psychology, especially in France, by integrating his metapsychics as an example of application of his scientific agenda, although this does not justify rehabilitating all his conclusions and especially his later drifts toward a scientific eugenics (Carol, 1995; La Vergata, 2018).

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CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

ENDNOTES

[1]For general studies on Richet, see: Wolf (1993), Estingoy (2003), Lewer (2006), Schneider (2001), van Wijland (2015). For his involvement in psychical research, see Alvarado (2019), Brower (2010), pp. 75–92; Marmin (2001b); Le Maléfan (1999), pp. 85–88, 273–278; Lachapelle (2011); Monroe (2008), pp. 208, 211, 253; Plas (2000), pp. 54, 55, 89–93, 99–109, 125–126, 150–154; Tabori (1972), pp. 98–132.

[2]See the bibliography collected by Wolf (1993).

[3]The verbs "to magnetize" or "to mesmerize" follow the original theory by F. A. Mesmer of animal magnetism, but descriptively meaning something like seemingly inducing an altered state of consciousness through hand passes over the individual's body, which might produce fixed gaze, apparent communication from another aspect of the person's mind, and enhanced responsiveness to verbal suggestions.

[4]The Marquis Armand Marie Jacques de Chastenet de Puységur (1751–1825), a faithful disciple of Mesmer, although dissident from his views on artificial somnambulism, already employed the phrase "somnambulism induced by the magnetic act" (De Puységur, 1811).

[5]The historian of psychology Serge Nicolas preferentially listed the Société (Française) de Psychologie, born at the beginning of 1901 within the General Psychological Institute, as the first psychological society in France (Nicolas, 2002, p. 171), which did not have Richet as a member. Nicolas did not omit to mention the creation in France of the SPP (1885), but presented this event as "preparing the way" to the official foundation of a psychology in the wake of Ribot and the chair of experimental and comparative psychology (1888–1901) at the Collège de France, and the organization of the International Congress of Physiological Psychology (1889).

[6]Tocquet (1969, p. 16) listed 11 literary works (poetry, drama, novels), 3 books of history, 4 books on sociology, 6 books on psychology and philosophy, 7 books on biology, 5 books of metapsychics, and 3 works ready for publication at the time of his death: *Europe in the nineteenth century*; *Immortal women*; and *The Future of Science*.

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