

European Neurology

Jules-Auguste Soury (1842–1915): A Centennial Call to Mind

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Abstract

Jules-Auguste Soury (1842–1915), a Parisian theorist and historian of science, was the author of 'The Central Nervous System', one of the most comprehensive and original accounts, until 1900, of the history of brain research. A contemporary of Jules Déjerine (1849–1917), Santiago Ramón y Cajal (1852–1934), and other pioneers of neurology, with whom he maintained contact, Soury is a rare case of a French philosopher with solid foundations in neuroanatomy and neurophysiology. A quaint savant, Soury has been depicted as a strange hybrid produced by nature. His odd personality was coupled with an elegance, solidity and thoroughness in his neurological works. His prodigious facility for assimilating and discoursing the ideas of others has been somewhat clouded by his lamentable ideological tenets. Nevertheless, in his neurological writings, he bequeathed a unique anatomical and physiological history of intelligence, a natural history of the human mind or, as he conceived it, a neurophilosophical sketch of the universe considered as a cerebral phenomenon.

Key Words

Neurophilosophy · History of Neuroscience · Mind-Brain Theories · French Neurology

Last August marked the centennial of the exitus of Jules-Auguste Soury (1842–1915), the man whom Francis Schiller (1909–2003), the renowned academic scholar of the University of California, San Francisco, designated a ‘neurohistorian’ amidst the founders of neurology [1]. Soury appears to be a rare historical case of a French philosopher with solid foundations in neuroanatomy and neurophysiology, among the first to undergo such a biomedical formation, which even the philosopher Théodule-Armand Ribot (1839–1916), founder of French psychology, lacked [2]. The figure of Soury resurfaced in the English literature in the 1990s as a result of two papers by Gelfand [3, 4].

The present article revisits the life and the neurological writings of this quaint savant, who put together one of the most comprehensive and original accounts, until 1900, of the history of brain research.

Life and Academic Career

It was Rose-Reine-Natalie Quétier (1810–1895), a woman with no education, who brought this scholar into the world on May 28, 1842. Born into a family of modest resources in an old Parisian building at Rue Saint-Julien-le-Pauvre, Soury was the son of Antoine-Marie-François Soury (1812–1881), who made his living through the craft of blowing glass for scientific instruments [2]. As a child, Jules passed long hours watching the whereabouts of convalescents and sisters in the adjacent small garden of Hôtel-Dieu, the oldest hospital of the capital [5]. Soury’s great grandfather, on the maternal side, had been a Flemish surgeon, J.-B. Vaast (1742–1807).

Soury was self-taught. In elementary school he escaped from his classes, refusing to learn. As an adolescent, between 1854 and 1858, he busied himself, like Spinoza, with constructing precision instruments from glass [2, 6]. In his free time Soury took an evening class in physics and chemistry at the École des Arts et Métiers (School of Arts and Crafts) and frequented the Sainte-Geneviève Library, absorbed in reading Voltaire, Buffon, Rousseau, Diderot and de La Harpe, and learning Ancient Greek and Latin [5, 6].

His parents recognized his aptitude and, despite their lack of wealth, encouraged their son to enter the Louis-le-Grand Lyceum in 1859. He became a brilliant pupil, completed his secondary education and obtained a Baccalaureate at the Saint-Louis Lyceum in 1862 [2]. Some time after that, Soury composed a dramatic poem in five acts on Saint Crescentius of Rome, but he eventually destroyed the manuscript [7]. On the advice of his philologist, Michel Bréal (1832–1915), he entered

the École des Chartes, where he studied with the archaeologist Jules Quicherat (1814–1882), and graduated with a diploma, four years later, on February 7, 1867, as an archivist-paleographer [8].

In 1865, Soury had begun studying neuroanatomy in the laboratory and service of Jules-Bernard Luys (1828–1897) and Auguste Voisin (1829–1898) at La Salpêtrière. That endeavor would totally absorb him and become the purpose of his life [7].

The physiologist Paul Bert (1833–1886), alumnus of Claude Bernard, and the statesman Léon Gambetta (1838–1882) saw the promise of Soury and in 1879 initiated the creation of a Chair in the History of Religions at Collège de France. Soury faced opposition from Jules Ferry (1832–1893), Minister of Education, and Édouard Lefèbvre de Laboulaye (1811–1883), Administrator of the Collège de France, and in 1881 the Chair went instead to the theologian Albert Réville (1826–1906). Soury responded with an angry letter to Ferry with the threat, ‘I shall break you like glass under my pen’ [3]. On May 27, 1881 Soury presented a thesis for the *doctorat ès lettres* (Doctor of Arts degree) on the natural theories of the world and life in antiquity; he dedicated the French edition [9] to Ernest Renan (1823–1892) and the Latin version [10] to Émile Egger (1813–1885).

Bert, having succeeded Ferry at the Ministry of Education, created a Chair in the History of Psychological Doctrines in the École Pratique des Hautes-Études at Sorbonne; the position, also coveted by Ribot, was bestowed upon Soury on November 30, 1881. Soury taught the history of theories of physiological psychology there between 1881 and 1898 (fig. 1). A novel and exceptional topic, it attracted the attention of Anatole France, who immediately described in *Le Temps* of Paris: ‘Monsieur Jules Soury, in his small upper hall of La Sorbonne, scalpel in hand, a brain on the table, tranquille, taught an élite of pupils the complex game of the apparatus of cerebral innervation and developed the theory of localization. It was indeed a beautiful composition, and everything, up to the remains of brain and cerebellum scattered over the table, acquired an intellectual sense, vesting that nobility which science impresses upon nature’ [6]. Soury taught until half past five without the need to eat or rest [7]. On December 30, 1898, under the presidency of Gabriel Monod (1844–1912), Soury became Director of Studies (*Maître de conférences*, a tenured faculty position) at the École Pratique [5].

Anatole France [6] gave a glowing description of how Soury drew diagrams on the blackboard and skillfully dissected the brain with his tiny hands. He depicted him as ‘studious and solitary, fallen into a grand philosophical melancholy...admirable for the variety of knowledge and profundity of views, his articles making the *délices des délicats*, an erudite scholar and marvellous writer’.

Soury was a scholar in philosophy, biology, comparative religion, and cultural anthropology [5].

His non-neurological works, written in French, include: *Luther, History of His Exegetic Preparation* (1871); *Psychological Studies: Portraits of Women* (1875); *Historical Studies on Religions, the Arts, the Civilization of Anterior Asia and Greece* (1877); *Essays of Religious Critique* (1878); *Jesus and the Gospels* (1878); *Psychological Studies: Portraits from the 18th Century* (1879); *Handbook of the History of Materialism* (1881); *Natural Philosophy* (1882); *Diogenes of Apollonia* (1898); *Science and Religion* (1901); and *Campagne Nationaliste*, which included an autobiographical chapter (1902).

To further defend his ideas on transformism and evolution, which were gradually re-emerging in France after being discredited, despite having originated there, Soury, in addition to his work as author and critic, translated several related monographs by German authors into French [11]. These included books by Ernst Haeckel (1834–1919), in which the Jena zoologist proposed the kingdom *Protista* [12] and opposed Rudolf Virchow's suggestion to ban evolution from schools [13] and also the *Essays of Cellular Psychology* [14]; the *Elements of General Physiology* [15] by William Thierry Preyer (1841–1897), a pioneer in developmental psychology and Professor of Physiology at Friedrich Schiller University, Jena, directly challenging the views of older biologists who saw the protoplasm as a homogeneous substance, and claiming instead that it was a mixture of solid and liquid, complex compounds that go through rapid and uninterrupted decomposition and reformation [15]; and books by the orientalist Theodor Nöldeke (1836–1930), the ophthalmologist Hugo Magnus (1842–1907), and the naturalist Eduard-Oscar Schmidt (1823–1886) [16–18].

In physique (fig. 2), Soury was of small build, close-shaven, completely bald, of a puny look [19–21], as he lived under extreme asceticism [5], existing solely on water, bread and apples; such exaggerated abstinence might have something to do with his final phthisis [7]. He died on August 10, 1915 in Paris, 127 Rue du Ranelagh [2]. He wished no eulogies on his tomb, private or public, preferring instead to revert to silence in all humility, *humilis ad humum*. Soury had also specified that the vigil should be kept by two Little Sisters of the Poor, and that no autopsy should be performed [5].

Soury's existence had been that of a pessimistic bachelor. Apart from his mother and some female relatives, he nourished an infinite aversion of women [5]. He also hated the Jews, and life in general [1]. He was violently anti-religious, anti-Catholic, anti-clerical; in brief, anti-everything [5]. He never slept in a bed other than his own. When he travelled on lecturing engagements, he spent the night in his hotel room sitting in a chair. He never ate at a table other than his own. He entertained his illiterate mother with a magic lantern and a barrel organ, playing *Ave Maria*, *The Blue Danube Waltz*, and the *Mignon Song* on perforated cards. After his mother's death, he ate on a bench at Jardin-du-

Luxembourg.

The historian Marius Sepet (1845–1925) notes that Soury was appreciated by his colleagues for his originality, intellectual value, constant labor and amenity of character [22]. The *British Medical Journal* [23] recognized the importance of Soury's work in neurology, despite not being a member of the medical profession, as well as the erudition and clearness of exposition in his great work, *Le système nerveux central* (1899). A brief Soury biography made its way into the 'Nordic Family Lexicon', the most comprehensive encyclopedia published in the Swedish language [24].

Camille Vettard (1877–1947), the literary critic and Proustian expert, places Soury alongside the grand masters of French prose, including Buffon, Laplace, Cuvier [25]. As a former pupil, he knew Soury closely and held him in vivid intellectual fondness. He describes Soury's shelves of books in his residence at Rue Gay Lussac, flimsy, with a door at one end and two windows, and a minuscule table holding the two volumes of *Le système nerveux central* and a microscope.

Léon Daudet (1867–1942), an avowed royalist who had co-founded the nationalist periodical *L'Action Française*, described Soury as a dramatic figure, forgotten due his reactionary ideas [26]. Daudet related how Soury, 'a little chap, rather stocky, with a huge forehead, not wishing anyone to touch his topcoat', had visited both himself and Major General Auguste Mercier (1833–1921), Minister of War at the time of the Dreyfus Affair, around midnight, 'bowing ceremoniously' and bearing under his arm a complimentary set of the two large volumes of *Le système nerveux central*.

Soury's Schopenhaueresque ideas oscillated, like a pendulum, between ennui and dolor, coupled nonetheless with the joy of knowing [26]. He was eager to reach great heights, but, like Nietzsche, who ended his abysmal gloom in madness, Soury ended his in monomania before death [25].

Ideology and Philosophy

At the end of the 19th century, there was a new right in France — anti-egalitarian, anti-democratic, anti-Christian and racist, much of that in the name of science [27]. The rise of anti-Semitism in France, like elsewhere, was associated with a widespread revolt against European positivism and liberalism [27].

Soury became a member of the far-right political movement, *L'Action Française*, founded in 1899 as a nationalist reaction against the intervention of left-wing intellectuals on behalf of Alfred Dreyfus (1859–1935), an officer of Alsatian-Jewish background whose sentence to life imprisonment on Devil's

Island in French Guiana, for allegedly communicating French military secrets to the German Embassy in Paris, became one of the tensest political scandals in the history of modern France (the 'Dreyfus Affair' of 1894–1906, when a large part of French society was divided between *dreyfusards* and *anti-dreyfusards*). Soury continued to defend the Aryan race against what he called the impingements, in France, of the Semitic race [5]. Soury's ideological tenets on racism and his intransigent anti-Semitism may have exacerbated the problem among French intellectuals around the turn of the century [28].

Soury was an admirer of Renan and exerted a strong influence on his own pupil, Maurice Barrès (1862–1923), who had attended his courses in the 1890s. Soury espoused a nationalist idealism, emphasizing the continuity of traditions, by relying on science and a supposed 'psychological inheritance'. Gelfand [3] has given a detailed account of the career and the ideological stance of Soury in the Parisian social and historical context.

Soury's view on religion was unpredictable: albeit a fervent materialist, and fundamental atheist, distanced from religious practice, he rejoined traditional Catholicism, and frequented the inside of churches for their quiet invitation to meditate. He has been defined as a 'clerical atheist'. He would earnestly state: 'I like the churches as a source of faith, of goodness, of seriousness. I find joy there, they are cool in the summer and have a good temperature in the winter' [29]. On one occasion, when a sacristan asked him to leave the nave of Saint-Sulpice at the time of closing, Soury rose against him and growled: '*Mon ami, quand je prie la Sainte Vierge, je ne veux pas qu'on m'emmerde*' ('My friend, when I pray to the Holy Virgin, I do not want anyone screwing me around') [5].

Here are some of Soury's philosophical ideas on life, mind, and science 'All mental life, all life of the spirit and the soul, is grounded in suffering: it is only by death that it is relieved of the dolor' [2]. 'Love is the great dupe of souls; it dazzles organisms in a flash, mesmerizing them to accomplish its end, that is, the perpetuity of the species or, in other words, the eternity of pain' [5]. 'Ceasing to be is no doubt a great boon; but not to have ever existed would be of much greater value. Ah! not to have been, inept vow, since we are' [5].

On consciousness and knowledge, he argued: 'The world, as it appears to us, is nothing but a cerebral phenomenon'. To him, the workings of the brain of humans was no different from that of other living beings [2]: 'The subjective phenomenon called consciousness is a general property of the protoplasm of protophyta and protozoa as it is of cells associated in tissues of metaphyta and metazoa' [29].

Soury's philosophical ironies exasperated people who would be described as 'good souls' [6]. He

absolutely relegated the old philosophical psychology, subjective in its method and sterile in its results, to the museum of the history of ideas [2]. ‘To be a psychologist’, he claimed, ‘one must be an anatomist’; ‘before occupying a Chair in Philosophy, one should pass through the clinic and the amphitheater’ [5]. He explained that all philosophical doctrines have been necessary, and thus legitimate, in their time. They were true as long as they reflected the diverse states of the human spirit that was contemplating them, and then old hypotheses made way to younger ones. ‘Our theories will have the fate of those which preceded them: they occupy us, we get passionate; our descendants will smile compassionately at our simplicity’ [6].

His mind was fixed in the anatomo-physiological conception of psychology. ‘Only scientific psychology, i.e. the science of the mental aspect of the phenomena of life, represents for humans the acropolis of knowledge’ [2]. He had scant regard for any mental or psychological phenomena which could not be related to a neuroanatomical substrate [4]. At the base of the production of intelligence and mind he believed that there existed only physico-chemical, or mechanical, phenomena; he saw no difference between the human brain and the ape brain [5]. In this view, all human and social history can and must be explained in terms of biology and psychopathology, with much ‘importance on the factor of heredity’ [5].

Lastly, on the value of science, he claimed, ‘To the man who simply reflects, science suffices’ [29], however, ‘Science is not the knowledge of what is, but of what appears to be, i.e. of phenomena, whenever there exist between them relations of succession or simultaneity; it is a creation of reason that never attains the Absolute point, only the observable and determinable relations of phenomena’ [2].

Neurological Writings

The Functions of the Brain (1891/1892)

This book presented, in one volume, articles which had originally appeared in Charcot's *Archives de Neurologie* and in Ball and Luys' *L'Encéphale*. It formed a critical history of progress in cerebral physiology by means of experimental lesions and excitation methods (fig. 3). A revised edition was published within a year [30]. The book, dedicated to the memory of Paul Bert, was structured in two parts, covering the School of Strasbourg (first 145 pages) and the Italian School (subsequent 280 pages).

The subject matter extended from the advances made in 1870, with the discovery by Fritsch and Hitzig of the excitability of the cerebral cortex onwards, and methodically detailed the experiments of Ferrier, Goltz, Luciani, Tamburini, Exner, Munk, Carville and Duret, Schiff, Gudden, Bekhterev, Monakow, Loeb, and so on. Both parts were rounded off with a chapter on the functions of intelligence, the theme at the center of Soury's occupation with the brain.

Of particular interest is a reply by Camillo Golgi, dated March 15, 1887, to a perplexed Cesare Lombroso, with regard to the anatomical nature of the mind as exposed by the naturalist Georges Pouchet (1833–1894) [31]. Soury reproduces Golgi's letter in its entirety (pages 375–376 in the first edition and pages 381–382 in the second edition [30]). Golgi notes that the only anatomy he sees in Pouchet's paper is in the title and judges the entire writing to be *una fantasia anatomo-fisiologica*. Golgi concludes: 'If I claimed that the said intellectual functions represent the sum of coordinated activities of all the nervous elements, no category excluded, I might as well, in support of this idea, make an argument on an *anatomical* basis, but I will hold myself, because, without the necessary apparatus for detailed histological techniques, which are not at place here, I could be accused, in my turn, of creating *fantasy*'.

Anatole France wrote about this book that 'Minds accustomed to lofty speculations on intelligence will herein find a romantic and dramatic interest stronger than that of all the fictions of poets' [6]. Coming from the pen of a *littérateur* rather than a physiologist, the work was criticized by the British physiologist Walter Legge Symes [32] for its arbitrary and 'unsatisfactory' classification, and an alleged bias in favor of the Italian School; nevertheless, the wide extent of the author's intimate familiarity with the physiological neurology literature and the intelligible and picturesque writing style were duly acknowledged.

Brain (1897)

Soury wrote the largest part of the entry on the 'Brain' [33, 34] for the *Dictionnaire de Physiologie* (fig. 4) compiled and edited by Charles Richet (1850–1935), Professor of Physiology at the Faculty of Medicine in Paris — and in 1913 the winner of the Nobel Prize for his work on anaphylaxis. Soury covered the history of brain research from Aristotle and Galen to Descartes and from Willis to Fritsch and Hitzig; the general role of the cerebral cortex, intelligence and comparative psychology; cortical centers of association and motor and sensory areas; and the nervous conduction. The anthropologist Léonce Manouvrier (1850–1927) contributed a section on comparative neuroanatomy, and Richet a section on cerebral circulation, as well as the conclusion.

The Central Nervous System (1899)

Le système nerveux central, structures et fonctions; histoire critique des théories et des doctrines ('The Central Nervous System, Structures and Functions; A Critical History of Theories and of Doctrines') [35] was an epoch-making work (fig. 5), 'the like of which had not been seen before' [1].

The work was based on the Sorbonne course that Soury taught on the history of physiological psychology. The author dedicated the book to the memory of his mother and his father. The book had been preceded by Soury's many articles, some in journals actually published by Georges Carré, such as that on sensory systems and cortical localization [36–39]; by a three-part series on the neuron theory [40–42] and a critical review of the genesis of the cerebral and cerebellar convolutions [43]; and by an article on the 'Theory of Emotions' [44], in which Soury reviewed topical studies on blushing by Pitres, Régis, Bekhterev and others, as well as earlier discussions by James, Lange, Sergi, Marillier, Kraepelin and Wernicke, and concluded with the notion that the different parts of the body and their functions are connected to a kinaesthesia of physical modifications provoked by excitations of the internal or external milieu and transmitted to the central nervous system [45]. The material in the chapter on the 'Brain' in Richet's *Dictionnaire* [33, 34] also served as the basis for *Le système nerveux central*.

Devoted to the history of neurology when it was still struggling for recognition as a medical specialty, this remarkable book represented the explosion of knowledge in the late 19th century, and the marvels of cortical localization in particular [1]. Soury reached a height of scholarship which made him the first and, to this day, the most comprehensive writer on the history of the brain and mind sciences.

The two volumes together weigh 4.6 kilograms. The first volume ends at page 754. The second

volume begins at page 755 and ends at page 1868. At the end of the main corpus, the Contents occupy 67 pages and the Author Index 13 pages.

The first 631 pages trace the history of brain research. The book begins with Alcmaeon of Croton, the first thinker who, around 500 B.C., located the ruling faculty of the mind (*hêgemonikon*) and the perception of sensations in the brain [46]. The historical part covers Classical Antiquity, and then the Middle Ages, the Modern Era, Gall and Spurzheim, La Salpêtrière, and Fritsch and Hitzig. Each period is discussed from the anatomical, physiological, anatomo-pathological, and clinical perspectives.

The remainder of the text, from page 633 to page 1782, examines the ‘contemporary’ research studies of the latter part of the 19th century, up until October 1899 (the date of the Preface). Here the historian is transformed into a versed neuroanatomist and neurologist, including major discoveries in France and abroad, although careful not to cross into the psychiatric domain. The work concludes with Ramón y Cajal’s neuronism, the cornerstone of modern neuroscience [47].

On December 17, 1900, the *Académie des Sciences* accorded Soury one of its highest honors, the *Prix Montyon*, with a recompense of 2,500 francs; the following day, the *Académie de Médecine* proclaimed him laureate of its *Prix Saintour*, of a value of 2,000 francs [48].

The physiologist Étienne-Jules Marey (1830–1904), Professor of Natural History at the Collège de France, became a member of the *Académie des Sciences* in 1878, occupying the chair previously held by Claude Bernard. In his presentation to the *Académie des Sciences* on behalf of the Commission charged with awarding the *Prix Montyon* for 1900 Marey reported [49]: ‘All the theories are exposed with a detail, a precision, an analytic and critical certitude with virtually no equal ... The chapter devoted to the cerebral cortex is of utmost importance, as are those devoted to kinaesthesia, emotions, vision, audition, olfaction, and the neuron theory. The work of Monsieur J. Soury has no equivalent in any country and represents an extraordinary work and range of knowledge ... Having read Monsieur Soury’s book, one realizes the immense service rendered by the author to his generation, because we can now have a full picture of the anatomy and physiology of the nervous system since Antiquity, embracing in a synthetic view the progressive march of human knowledge’.

On its part, the *Académie de Médecine* wanted to prove its esteem of Soury by awarding the *Prix Saintour* to his beautiful book, which the neurologist Louis Landouzy (1845–1917) qualified as ‘a work constituting a free critique in the service of an erudition that impresses by its size and accuracy alike’. The *rapporteur* to the Academy, Émile Vallin (1833–1924), a pioneer of French public health,

described the merits of this formidable work: ‘It will remain the epitome of the efforts made in the study of principles related to the nervous system over the latter half of the century that just ended’ [49].

Jules Déjerine characterized *Le système nerveux central* as ‘an immense work that will stay in the history of the anatomy and physiology of the nervous system as a monument before which will bow researchers and thinkers alike’. He defined the book as ‘consecrated to the study of everything that has been written on the macroscopic and microscopic anatomy and the physiology of the central nervous system’, and doubted ‘whether anyone other than Soury could have written it, since one would have to be a humanist, a philosopher and a neurologist simultaneously and also possess the incomparable erudition and power of analysis which had long marked the numerous works of this eminent savant’ [48].

The naturalist Rudolf Burckhardt (1866–1908), Professor of Zoology at the University of Basel with a special interest in evolutionary neuroanatomy, commented that, until then, a complete understanding of the concept of the world, and its relationship with philosophy and theology in neurological terms was lacking. In that regard Soury stands alone [50]: ‘The task of creating a book in which neuron theory was treated in its entirety, in connection with biology, even its relationship with the psychological foundations of cultural history, thoroughly analyzing earlier studies in the domain of the history of physiology and psychology, but with no practical limits, was reserved for a solitary scholar, Professor Jules Soury of Sorbonne’.

Gelfand [4] and Schiller [1] emphasized that historical comprehensiveness is a meaningless illusion and that any ‘encyclopedia’ has blind spots. Since Soury’s main criterion was the relationship of the brain to the mind, the basal ganglia and the spinal cord, for example, left him rather cold [1]. On the other hand, he devoted room to neither Hippolyte Berhneim and the School of Nancy nor to Freud, as he saw no value in either psychosomatic medicine or psychoanalysis [2]. Soury also appears to have little appreciation of the major attempts of François Pourfour du Petit (1664–1741), during the early 18th century, to correlate clinical motor signs following injuries with neuroanatomical findings, or with the latter’s pioneering application of ablation techniques on experimental animals [51].

The scope of *Le système nerveux central* has been dealt with in greater detail elsewhere [4].

An English translation of *Le système nerveux central* is included among the manuscripts (Series IV. Writings, Box 7, Folder 9, and Box 8, Folder 1) of Maurice Lenz (1890–1974), former radiation oncologist at Columbia University College of Physicians and Surgeons and Director of Radiotherapy at Presbyterian Hospital [52]. It is not known if the translation is by Lenz, who was fluent in French.

Conceivably, Lenz might have been assisted by Cornelius G. Dyke (1900–1943) of the Neurological Institute of New York, a pioneer neuroradiologist, scholar, painter and theologian, and Leo M. Davidoff (1898–1975) of the Albert Einstein College of Medicine, a pioneer neurosurgeon, who co-authored the chapter on the nervous system in Lenz’s book on clinical radiotherapy [53]. As of 2015, the OCLC-WorldCat library network does not show any published English version of Soury’s work, and thus, as Alastair Compston, former editor-in-chief of *Brain*, assessed, ‘Soury’s magisterial work has no rival for its range, detail, and scholarship; the absence of a published English translation has left the voluminous monograph too much of a francophone secret’ [54].

Some Resurfacing Correspondence

Soury exchanged correspondence with Santiago Ramón y Cajal. On page 1618 of *Le système nerveux central*, Soury quotes a letter received from Cajal, dated May 19, 1899 [4, 35], in which ‘the eminent Spanish histologist’ writes, with regard to his ‘Conjectures on the Anatomical Mechanism of Ideation, Association and Attention’ [55]: ‘I personally attach no great interest whatsoever to these conjectures, condemned by their very nature to be continuously transformed, and replaced by other, more fortunate. The hypotheses of Mr. Duval and myself suffer a major drawback: they rely on supposition, and not on proof of the existence of rapid contractions occurring in the elements of the grey matter’.

Two handwritten letters addressed by Soury to Cajal (dated April 28, 1899, and August 2, 1908), catalogued as inventory 7515 and 7665 at the Instituto Cajal in Madrid, surfaced in the ‘Correspondence’ compiled and edited by Santarén [56]. The translations below are indirect, based on Santarén’s Spanish rendition of the French originals [56].

The first letter pertains to the concept of neuronal *amoeboidism*, an overview of which, as well as of the related theories, was given by Cajal [55, 57]. Early on, the anatomist Hermann Rabl-Rückhard (1839–1905) had proposed that changes in connectivity, causing changes in function, are brought about by the amoeboid movement of axon terminals approaching or withdrawing from somata and dendrites [58]. Rabl-Rückhard went further, arguing that such a phenomenon was the basis of the formation of memories, of forgetting, of dreaming, of hypnotic trances and alertness, and so on. The concept was discussed by Soury [35, 59], who notes that the theory of amoeboidism implies that the protoplasmic expansion of the neuron, not being a fixed structure, is constantly ‘animated’.

Paris, 21 Rue Gay Lussac

April 28, 1899

Dear and honorable colleague and friend,

I am sending the circular that I am going to direct to my editors begging to seduce you with the temptation to write a brief synthesis of your doctrines for the new collection *Scientia*. I take this opportunity to return the fond memories and to request the third issue of your great work *El sistema nervioso del hombre y de los vertebrados*. I announce it in the *Annales Médico-Psychologiques*.

My book is finished; I reached page 1300 and I only have a few hundred leaves to proofread and reach, I hope, 1800 pages. It is my will, my *tumulus* [‘burial mound’] that I had wished to write: therein it lies. The work will appear in the 20th century, although I compiled it in the 19th.

I am perfectly aware of the value of your works as not to warn that I would be cautious before deciding, if I do, to give anything to the publishers. I am informing you. I know nothing.

The invitation that I am sending has no other intention than, if conditions convince you, to encourage you to write a few pages which we can take advantage of in France and outside France. If you agree, I would be honored to act as an intermediary in the negotiations.

If not, I shall have no choice but to read your *Revista Micrográfica* and your *Sistema nervioso*, in the Spanish language.

Long ago I sent you a work, to which you had the extreme pleasure of responding, on the 'Amoebism of nerve cells: theories of Wiedersheim, Rabl-Rückhard, Tanzi, and S. Ramón y Cajal' (*Revue générale des sciences*, 1898, pp 370–376). I would wish to know, before reproducing the comments you have on the work, if you approve the theory, i.e., do you still attribute to the same chemical processes the phenomena of migration of neural elements in the embryonic and fetal states? If you do not have at hand that work, do not get in the trouble of searching for it, I shall send you another copy. But I would not want to misinterpret your thought and I would therefore wish that the readers of my book might be able to know the last word of your scientific opinion on this issue of utmost biological philosophy.

Your faithful and devoted admirer and colleague,
Jules Soury

The second letter from Soury to Cajal refers to the neuron doctrine and Apáthy's catenary stance [60, 61]. In the original edition of *Textura* [64], Cajal had already cited two of Soury's articles on the neuron theory [40, 41].

Paris, 46 Rue Notre-Dame des Champs
August 2, 1908

Dear maestro and friend,

I received, and for that I thank you much, the shipment of the final issue of volume V and the first issue of volume VI (June 1908) of *Travaux du laboratoire de recherches biologiques de l'Université de Madrid*.

Your article on 'L'hypothèse de la continuité d'Apáthy' says: 'The systematic error weighs, as if it were a formidable helmet of bronze, upon the brain of authors in such a manner that their neurons appear ankylosed and virtually anastomosed forever'. Your reflections on 'the psychology of sages' refractory to reason and logic — those who have ideas crystallized in a way, in the form of dogmas, in great classical theories; all this inspiration, all this spirit, which has been mostly eliminated in the antiquated sages — have some faults of typography and syntax in French that would be easy to correct if I re-read the proofs of your review.

Who among the French would not love to write Spanish as well as you write French!

Certain faults of expression that have escaped might, nonetheless, work against you in clearly malignant minds, such as those of Apáthy, Bethe or Bielschowsky.

Lacking anything better, you shall always have me willing to review proofs of articles published by you and your

colleagues in *Travaux du laboratoire de recherches biologiques* under the only term that this work is always amicable and altruistic, i.e., in good French, and with no other pretension or interest on my part but trying to contribute, in a way absolutely selfless, to the work of the high and powerful doctrine to which you have raised the science of the central nervous system.

Your faithful and affectionate devotee,

Jules Soury

P.S.: People do not have to know about such revisions, either before or after they have been effected. I put it as a condition. You yourself would not need to ever make the slightest acknowledgment.

In the last year, I acquired two earlier autograph letters of Soury. The first (fig. 6) is addressed to the publisher, Félix Alcan (1841–1925). In 1875, Alcan had joined Baillière to form a publishing house specializing in science, history and philosophy; they would eventually publish some of Soury’s works [15, 33, 34, 62]. The letter reads:

January 12, 1878

Sir,

I write to you, having signed one of two copies of the agreement, the terms of which were adopted, not long ago, by Mr. Germer Baillière and myself.

I take this opportunity to assure you, Sir, of my best intentions,

Jules Soury

The second letter (fig. 7) is addressed to Gustave Kahn (1859–1936), editor-in-chief of the anarchist journal, *La Société Nouvelle*. Soury mentions a draft manuscript titled ‘Toast to Science’, most likely referring to the chemist Marcellin Berthelot (1827–1907); further, below he mentions Jean Izoulet (1854–1929), Professor of Social Philosophy at Collège de France.

Paris, 21 r. Gay Lussac

April 28, 1890

Dear Mister Kahn,

I would be very happy and very honored if *La Société Nouvelle* published my *Toast à la Science* du Dîner Berthelot. The state of the health of my Mother has not allowed me to rest past 22:00 hours, and the Discourse has not begun until around midnight; Mr. Izoulet, who had my manuscript, could not read it. Mr. Berthelot, after having acquired knowledge of my little discourse — one page of my philosophy — has expressed to me, with his acknowledgments, his

regrets. This is indeed an authentic document of the *Dîner à la Science*. I would be obliged to you, if it were possible, to reproduce it according to the text in *La Justice*.

Consider me your admirer and faithful reader.

Yours cordially,

Jules Soury

Epilogue

Soury was paradox personified, a strange *hircocervus* [sic] produced by nature [1, 2]. The elegance, solidity and thoroughness of his neurological works were tied to his odd personality. In a letter to the philologist Max Müller (1823–1900) dated December 19, 1879, Renan wrote about Soury: ‘Surprisingly gifted by nature; great innate style; prodigious facility in assimilating the ideas of others; eminently philosophical mind; all that marred by a lamentable carelessness, an unbearable ego, a desolate lack of seriousness, in all, *corruptio optimi pessima*’ [63]..

Soury has been relegated because of his anti-Semitism and his writings on race. Such attitudes evolved gradually in his thought, as, initially, he had belonged to a progressive cause and befriended people with social sensibility such as Gambetta.

Moreover, in 1878, soon after publication of his book *Jésus et les évangiles*, Soury realized that any diagnosis on the historical psychopathology of the Nazarene was to no avail and that in this case, as in the case of Socrates, one might as well resign to ignorance. To appease those whose religious beliefs the book had hurt Soury repurchased from bookstores the remaining stock and destroyed it. He published a new edition from which he removed a medical-psychological diagnosis based on interpretations of Gospel texts that would seem helpless [64].

Upon finalizing *Le système nerveux central* in 1899, he personally bore the cost of 4000 francs (equivalent to 16000 euros today) for a limited print run of one thousand sets of the two large volumes. This may explain the difficulty of finding the book today. Having to pay an extra 6 francs for each unsold set, he did not consider the price tag excessive: ‘It is not expensive for my tombstone’, he told Barrès [64].

On the other hand, he intended to bequeath an anatomical and physiological history of intelligence, a natural history of the human mind, and, even more, a sketch of the conception of the universe considered as a cerebral phenomenon [2]. *Le système nerveux central* constitutes a thesaurus

of information, including copious, rare original passages by classical philosophers. Any explorer of the mind's past will find it essential.

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The author reports no proprietary or commercial interest in any product mentioned or concept discussed in this article.

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Figure captions

Fig. 1. A 1911 cartoon of Jules Soury lecturing, signed by the Parisian journalist and graphic artist André Rouveyre (1879–1962), for the fortnightly periodical *Mercure de France* in its 22nd year [19], reprinted in ‘Contemporary Faces’ [20]. In his lectures, Soury soliloquized indefatigably, inexhaustibly, with his eyes closed, his hands clasped, his feet brought back under the chair [25]. Soury commented to Rouveyre: ‘... regarding the portrait of the old thinker, Soury, that you published in *Mercure de France*, it is evident that he suffers from incurable skepticism, that cancer of intelligence. It would be better to die than to live with the illusion of knowing it does not matter what about nothing’ [20].

Fig. 2. The only other known depiction of Jules Soury. A caricature penciled by Dubois circa 1877, from the Archives of Bibliothèque Nationale de France [2, 28]. When his 86 year-old mother died on October 26, 1895, Soury placed his only photograph on the chest of the beloved deceased [5]. Vettard [25] describes Soury’s short stature, hairless face, wrinkles charged by bitterness and thought, tiny piercing eyes, high and polished skull, and pointed profile, in brief, a mask of a ‘Templar of Verity’. Soury mostly dressed in black, in some sort of an undefined ecclesiastical manner, with a perennial black tie, and occasionally carrying an umbrella.

Fig. 3. The first and the second edition of ‘The Functions of the Brain’ [30].

Fig. 4. Soury contributed the better part of the entry on the ‘Brain’ (*Cerveau*) to Charles Richet’s ‘Dictionary of Physiology’, left [33, 34]. Reproduced from Soury’s chapter: Upper right, the external facies of the left hemisphere after Déjerine. Lower right, motor regions or tactile sphere of the cortical convexity of the human brain.

Fig. 5. The two volumes of *Le système nerveux central* [35], possibly Soury’s own copy (cf. Supplementary Material).

Fig. 6. A handwritten letter from 1878, addressed by Soury to Félix Alcan (author’s archive).

Fig. 7. Another handwritten letter, from 1890, addressed by Soury to Gustave Kahn (author’s archive).