Dr Simarro and his time

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ABSTRACT

A man of exceptional intelligence and culture, Luis Simarro Lacabra (Rome, 1851-Madrid, 1921) inspired the enthusiastic young researchers who made up the so-called Madrid School of Neurology and was the key influence who led Santiago Ramón y Cajal to dedicate his work to neurohistology. After the traumatic loss of his parents and a rebellious youth, he found in Madrid an atmosphere in which he was able to dedicate himself to the study of the nervous system, from the microscope to the consultation. Rooted in Krausist philosophy, the Institución Libre de Enseñanza (Free Institute of Education; ILE) was for years (1857-1939) Spain's intellectual centre, proclaiming freedom of thought and science to be the foundation of progress. The ILE's halls received scientists including Einstein and such distinguished writers as Tolstoy, with Francisco Giner de los Ríos (1839-1915) as its spiritual leader. Simarro's articles in the ILE's bulletin show his up-to-date understanding of the physiology of the nervous system, proposing that the learning of motor programmes occurs through the repetition of a given movement. An excellent clinical neurologist, he refuted Charcot's opinions as the expert examiner in the Larios case, diagnosed the presurgical localisation of a brain tumour, and offered an explanation of regressive neurological signs in senile patients, in accordance with Hughlings Jackson's evolutionist ideas about the hierarchical stratification of the nervous system. A proponent of the cerebral degenerationism theory of Morel and Magnan, he was interested in the neural foundation of consciousness, mental fatigue, and choice and free will. The highest point of his career was the creation in 1902 of a chair of experimental psychology, the first in Spain, at the Faculty of Sciences in Madrid, promoted by his friends Nicolás Salmerón (1838-1908), president of the First Spanish Republic, and the pedagogist and philosopher Giner de los Ríos.

KEYWORDS

Madrid School of Neurology, Giner de los Ríos, Institución Libre de Enseñanza, Luis Simarro, neuropsychology, psychology, psychiatry, Ramón y Cajal

Introduction

Luis Simarro Lacabra (Rome, 1851-Madrid, 1921) was a multifaceted intellectual, a man with diverse interests and extensive knowledge. A Europeanist by education and by conviction, with respect to neurology we may say that he was the first Spanish neurologist to apply a modern, rigorous, scientific approach to the study of the nervous system, from neurohistology to the examination of higher cortical functions. In this special issue, other authors study his role as a histologist (J.J. Zarranz) and his relationship with Cajal (J.J. Campos Bueno). This study highlights Simarro's ability to inspire great vocations. Thus, it was at his own home on Calle General Oráa in Madrid where Nicolás Achúcarro began his study of histology[1] and where Lafora, under Simarro's supervision, wrote his doctoral thesis on the goldfish brain.[2] These men, in turn, were the first members of the Madrid School of Neurology.[3] At the intellectual melting-pot of the Institución Libre de Enseñanza (Free

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Received: 21 September 2021 / Accepted: 20 November 2021

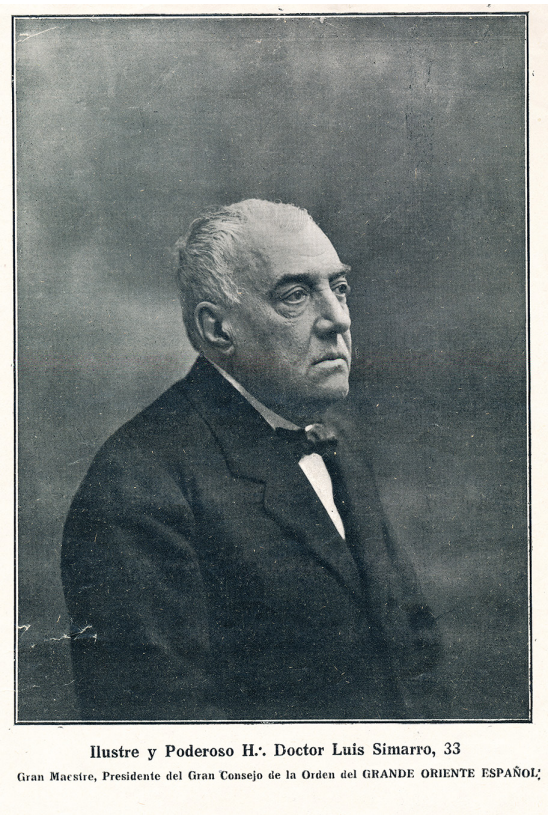

Ilustre y Poderoso H.·. Doctor Luis Simarro, 33
Gran Maestre, Presidente del Gran Consejo de la Orden del GRANDE ORIENTE ESPAÑOL

Figure 1. Luis Simarro in his youth (left) and as a member of the Spanish Grand Orient (right).

Institute of Education; ILE), he found a suitable audience for talking about the nervous system. In such lectures as "Teorías modernas sobre la fisiología del sistema nervioso" ("Modern theories on the physiology of the nervous system"), he displayed his impressive knowledge, directly citing Galen, Vesalius, and Huarte de San Juan, and gave summaries of works by Flourens, Claude Bernard, and Brown-Séquard,[4] which no doubt would have been included in his well-supplied personal library. Finally, the crown jewel of his career was the creation of the first Spanish chair of experimental psychology.[5]

It should be clarified that, as occurred with Cajal, Simarro's memory was obscured for political reasons in the long years following the Spanish Civil War, to the extent that he was almost unknown. It was nearly 50 years before a session of the Spanish National Royal Academy of Medicine was held in Cajal's memory,[6] despite exiled Spanish physicians having already been honoured decades previously, with some exceptions.[7-9] With respect to Simarro, there was pressure in 1940 to remove his name from a street in Valencia, where his family originated, "due to ideological incompatibility,"[10] and he was systematically overlooked in classes and conferences, even by individuals who should have known better, such as Pedro Laín Entralgo, the otherwise commendable chair of history of medicine in Madrid, who confessed frankly that "I have taken no particular pains to learn of the life and work of Simarro."[11] He made this statement in 1987, and it was not a question of disinterest or negligence. Rather, Simarro's profile as a freemason was incompatible with the Franco regime, given the dictator's known obsession with freemasonry and the peculiar press articles he published under a

pseudonym in the newspaper *Arriba* (1946-1951), in which he made specific accusations against Simarro.[12] The psychiatrist Castilla del Pino recalls that, as a medical student, he witnessed a book burning in the middle of Calle San Bernardo, near the Universidad Central de Madrid. He was able to save one, Marañón's *La doctrina de las secreciones internas* ("The theory of internal secretions"), dedicated to Dr Simarro; this was the first news Castilla del Pino had heard of the latter's name.[13(p287)] Not all neurologists ignored the figure of Simarro: photographs on display in the lecture room at the neurology department founded by Gonzalo Moya (1931-1984) in 1964 showed Simarro as a young man (Figure 1A) and in his later years (Figure 1B) as one of the pioneers of the specialty in Spain.[14,15]

This article studies Simarro's passage through the different institutions in which he was involved, the imprint they left on his life and scientific career, and his friendships with some of the personalities who made their mark on him.

Material and methods

The chronology of the places and political circumstances in Luis Simarro's life is taken from the book by Helio Carpintero, J. Javier Campos, and Javier Bandrés[5(p93-108)] commemorating the centenary of the chair of experimental psychology. Information on Simarro's childhood and youth is taken from the excellent study by the Valencian pathologist and historian Francisco J. Vera Sempere (2002). Despite certain errors, the book by Vidal Parellada,[16] published by the Spanish National Research Council, includes valuable little-known details about Simarro, such as his correspondence with Cajal, Francisco Giner de los Ríos, and other figures. The library of the Ateneo de Madrid, which holds many works from the 19th and early 20th century, offers interesting information on the ILE. Some interesting articles on Simarro and his work were found on the Dialnet portal and in the journal *Revista de Historia de la Psicología*.

Results

Tragic childhood and rebellious youth

Simarro was born in Rome due to circumstance: his father, the Valencian painter Ramón Simarro Oltra (1822-1855), was living in Italy when, severely ill with tuberculosis, he was forced to return with his family to Xàtiva, where they lived at number 15, Calle Roca. After her husband's death, young Luis' mother, the poet Cecilia Lacabra Lamas, from Alicante, killed herself by jumping to an interior courtyard of the building. She is said to have jumped with her son in her arms, which would explain the mild limp that Simarro displayed throughout his life. Both parents were buried the same day, 8 May 1855, when Luis was four years old. Years later, he set a headstone dedicated to his parents, sculpted by Mariano Benlliure Gil (1862-1947).[10]

He was left in the care of a maternal uncle. At the local secondary school, the journalist and chair of Latin Vicente Boix Ricarte (1813-1880) recommended him to teach natural history at Colegio San Rafael in Valencia; he was later dismissed when the school's religious administration discovered that he read Darwin.[17] Vicente Blasco Ibáñez (1867-1928), a radical republican novelist and founder of the newspaper *El Pueblo*, invited him to participate in a popular school, giving night classes on workplace hygiene at the Republican Centre for the Working Class of Valencia.[5,18] In 1869, he began studying at the Faculty of Medicine in Valencia, a year after the exile of Queen Isabella II, marking the start of the Six Revolutionary Years.[19] His dedication to Darwinism was also influenced by another Valencian, Serrano Cañete (1832-1892).[20]

The young Simarro's revolutionary zeal was tested when on 14 July 1873, following the Cartagena uprising, groups of militiamen barricaded Valencia's central market and the area surrounding the railway station. Simarro was present during the cantonal rebellion,[5] and was even appointed as treasurer by the revolutionary junta.[10] Conflict with the conservative chairs of the Faculty of Medicine was inevitable. After a bitter confrontation, the prestigious surgeon Enrique Ferrer y Viñerta (1830-1891), seen as a renewing force despite his sympathy with the outdated ideas of vitalism,[20] refused to pass Simarro, obliging him to enrol at the Faculty of Medicine of Madrid for the 1873-1874 academic year.[21]

Dr Velasco's Free School of Public and Private Hygiene

After the overthrow of the monarchy, a decree issued on 21 October 1868, signed by the minister for development, Manuel Ruíz Zorrilla, proclaimed that "education will be free at all levels and to people of all classes." This enabled the foundation of medical schools authorised to issue medical licences, an education system based on the freedom to teach. Model schools were created that far

Figure 2. Left: Dr Velasco's anthropology museum in 1877. Source: *La Academia: Revista de Cultura Hispano-Portuguesa y Latino-Americana*. 1877;13-14:196. Right: Pedro González Velasco. Source: Image archive of the National Library of Spain.

outperformed the conventional official universities, such as that developed by the Hospital Provincial de Madrid. The school's ranks included renowned specialists including the dermatologist José Eugenio de Olavide (1836-1901), the psychiatrist José María Esquerdo Zaragoza (1842-1912), and the paediatrician Mariano Benavente González (1818-1885).[22] There was inevitably tension with the official faculty of the Colegio de Medicina y Cirugía de San Carlos,[23] although the harshest attacks were from the young Carlos María Cortezo (1850-1933), who, writing under the pseudonym Decio Carlán, used the pages of the journal *El Siglo Médico* to denounce the undeniable shortcomings and excesses, such as the arbitrary reduction of the duration of medical studies from seven to five years.[24]

The surgeon Pedro González de Velasco (1815-1882), who commendably opened an anthropology museum (today the National Anthropology Museum) at his own expense, had been forbidden from entering the university on account of his republican ideology (Figure 2). Once the Six Revolutionary Years were underway, a provisional faculty at the Colegio de San Carlos and physicians known for their progressive ideals, such as Velasco's dedicated student Florencio de Castro y Latorre (1848-1928), nominated Velasco for the chair of surgery. In November of that year, the dean, Pedro Mata y Fontanet (1811-1877) acknowledged his merits and appointed him as "lecturer in surgical anatomy, operations, dressings, and bandages."[25(p120)] He was able to practice his true calling as an instructor after the inauguration of his Free School of Public and Private Hygiene. It was a cutting-edge institution, with laboratories for biological analysis and experimental medicine, modern surgical instrumentation, and chemistry and histology laboratories, in addition to Velasco's collection of anatomical specimens.

In 1875, *El Pabellón Médico*[A] listed its 24 lecturers. Key individuals included Carlos María Cortezo y Prieto (1850-1933), who later became a well-regarded director general for health, and Rafael Ariza Espejo (1826-1887), an ardent defender of the cell theory of Rudolf Virchow, with whom he trained in Berlin, and who was in charge

[A] *El Pabellón Médico*. 1875;15:355-6.

of the institution's histology laboratory. His career led him to practise otorhinolaryngology, and he published approximately 30 studies in *Anfiteatro Anatómico Español*, the journal founded by Velasco. His works were gathered in a compilation by his contemporary Ramón Freire.[26] The histopathology laboratory at Velasco's museum became a hotbed for histological study and for future disciples of Louis-Antoine Ranvier (1835-1922) (Figure 3).[27] This was the case not only for Luis Simarro, but also for the Cantabrian Eugenio Gutiérrez González (1851-1914), who later combined the study of gynaecology and histopathology, and Leopoldo López García (1854-1932), from Madrid, assistant to Aureliano Maestre de San Juan (1828-1890) at the Hospital Clínico de San Carlos, who in turn sparked interest in histology in Cajal and del Río Hortega.[2]

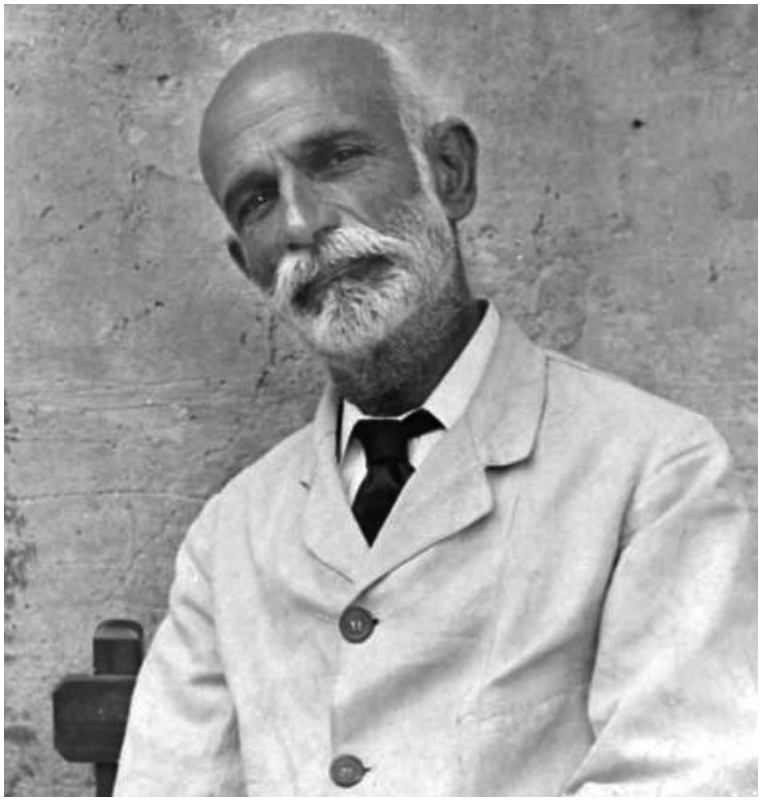
For Simarro, who at the time was 24 years old and had no connection with Madrid's intellectual and scientific circles, Velasco's Free School presented great opportunities. He met noteworthy individuals and learned about positivist science over philosophical and metaphysical speculation,[28] which Cajal ironically referred to as "the religious ganglion, which arises in the brain after many years' exposure to blind faith."[29(p192)] He lectured once more on workplace hygiene and began writing his doctoral thesis, entitled "Ensayo de una exposición sistemática de las relaciones materiales entre el organismo y el medio como fundamento de una teoría general de la higiene" ("Trial of a systematic explanation of the material relationships between the body and its setting as the basis of a general theory of hygiene").[5] But above all, he forged lasting friendships with Nicolás Salmerón, who later served as president of the short-lived First Spanish Republic, and with Federico Rubio y Galí (1827-1902).

Velasco's splendid new institution soon failed: only a few courses were imparted to a small student body, lecturers went without pay, and the centre had barely any patients for demonstrations. The Bourbon Restoration led to a reform of Spanish universities, spelling the end of the hope and adventure of the free schools.

The ILE and its conflicted origin: Krausism and the Catholic orthodoxy

The ILE may be interpreted as the practical crystallisation of the ideas of the pedagogist and philosopher Francisco Giner de los Ríos, based (to an extent) on the Krausist movement. In his *Lecciones sumarias de psicología* ("Summary lessons in psychology"),[30] he establishes a purely metaphysical/speculative characterisation of Krausist thought, understanding psychology as a "science of the soul."[31] The Krausist ideology has been summarised as "idealist, spiritualist, and pantheist, close to metaphysical speculation and concern with social problems."[32,33] Originating in Germany, Krausism considered freedom of thought and science to be the foundation of progress. The meeting between Julián Sanz del Río (1814-1869), chair of history of philosophy in Madrid, and disciples of the author and philosopher Karl Christian Friedrich Krause (1781-1832), in Heidelberg, and his famous speech at the opening of the 1857-1858 academic year ("the true intellectual programme of

Figure 3. Louis-Antoine Ranvier (1835-1922). Source: Collège de France.



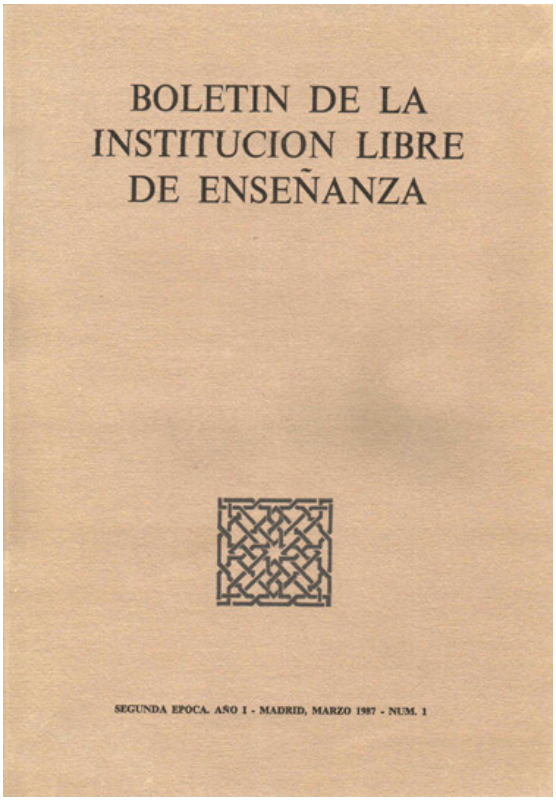


Figure 4. Francisco Giner de los Ríos (left) and the front page of an issue of the bulletin of the Institución Libre de Enseñanza. Source: Fundación Giner de los Ríos.

Krausism") promoted and disseminated Krausist ideas in Spain, particularly among university lecturers.

The impact of Krausism on education met immediate opposition from the Catholic orthodoxy and its ideological control over instruction, which was supported in 1864 by the encyclical *Quanta cura* and the attached *Syllabus errorum*, which condemned rationalism and liberalism as "errors of modern thinking." The following year, Julián Sanz del Río's *Ideal de la humanidad* ("The ideal of humanity") was included in the Vatican's index of forbidden books. With general Ramón María Narváez (1799-1868; known as "el Espadón de Loja") becoming president of the government cabinet from 16 September of that year, a university purge was carried out that led to Julián Sanz del Río, the theologian Fernando de Castro Pajares (1814-1874), and Nicolás Salmerón (who, as mentioned above, served as president of the First Spanish Republic) being removed from their chairs; all three men are buried at the civil cemetery in Madrid. They were restored after the revolution of 1868 and remained throughout the reign of Amadeo I (1871) and the First Spanish Republic (1873). However, with the Bourbon Restoration of 1875, when Manuel Orovio y Echagüe (1817-1883) was minister for development, Giner de los Ríos was once more dispossessed of his chair of philosophy of law and international law, and imprisoned in the castle of Santa Bárbara in Alicante.[19]

Giner de los Ríos and the Free Institute of Education

Francisco Giner de los Ríos' (Figure 4) pedagogical project began in 1876 and ended with the conclusion of the Spanish Civil War in 1939. His ideology was branded by the winning side as conceited and lacking patriotic and religious ideals. For more than 50 years, the

ILE collaborated with such distinguished international figures as Einstein, Darwin, and Tolstoy, as well as Spanish intellectuals including Ramón y Cajal, Galdós, Pardo Bazán, Azorín, and many others. It aimed to instruct, but also to teach character and conduct through physical education, sport, and outdoor activities,[34] with excursions for pupils to learn about and to love their country and its reality, also promoting artistic capacities. Far from rote learning, pupils were taught to take notes and to structure their ideas and concepts in written essays. Teachers had scientific training, and were vocational, selfless, and respectful towards their pupils, without using punishment or humiliation. This education would leave a lasting imprint. After the Civil War, every 28 December, the former pupils of the Instituto-Escuela, derived from the ILE, made semi-clandestine reservations at Casa de Diego at the Puerta del Sol in Madrid, to renew their schooltime friendships at a dinner that would invariably end with them singing "Ya se van los pastores a la Extremadura," more a lament than a song, under discreet surveillance by the regime's police (personal correspondence of the father of the author of this article).

Luis Simarro met the surgeon Federico Rubio y Galí (1827-1902), an opponent of Narváez and member of parliament following the overthrow of Isabella II, when both were lecturing at Velasco's Free School. Two years later, in 1876, he introduced him to Giner de los Ríos, with whom he established a close friendship. However, Cajal was very critical of what he interpreted as the negative influence of the ILE on Simarro's work. In a letter to his good friend Cortezo, he writes that: "Simarro's work cannot be fully appreciated because he loses himself within the networks of the Institute, one of the sacrosanct doctrines of which is to study and not to write."[35(p444)] Effectively, his biographers lament that as a researcher, he wrote almost nothing. While it is true that his many diverse interests (histology, clinical practice, politics, freemasonry, and a private clinic that forced him to work even on Saturdays; J.J. Campos Bueno, personal correspondence) may have divided his attention, the work cited demonstrates the opposite. In his collaboration with the ILE, his lectures display varied and profound knowledge on subjects as diverse as the physics of fire[36,37] and the absorption spectrum of colours by the crystalline lens.[38]

On 13 March 1878, he gave a lecture on what may have been the subject that most interested him: the function of the nervous system, "that soft, inconsistent mass," as he described it. He was a well-read scholar, citing references in French, English, and German, from Hippocrates to Broca and from Flourens to Fritsch and Hitzig. He accepts that the functioning of the brain causes changes in temperature ("cerebral congestion," a subject that was in vogue at the time) and in chemical and electric properties.

As his final question, Simarro discusses his great concern, which probably led him to study psychiatry with Magnan, and eventually experimental psychology: "free will, which reveals intimate meaning." He also reflected on the function of consciousness. He aims in his discussion of physiology "to eliminate hypotheses related to the soul," but considers Hartman's theory that in evolutionary terms, "the brain would be an appendix of the spinal cord"; this conception would surely shock the neurologist John Hughlings Jackson (1835-1911), for whom "it may be the cornerstone of the philosophy of the unconscious."[39,40] With his typical erudition, he gives an overview of the history of physiology, admiring the experiments of Flourens, Bell, and Magendie, but comments that he is not convinced by the utopian thinking of Juan Huarte de San Juan (1529-1588) who writes in his *Examen de ingenios* ("Examination of wits") that "only the exceptional ingenuity of Jesus Christ will allow him to redeem the world." He also cites Claude Bernard and Brown-Séquard, though he critiques the fact that their experiments abide by "the general law of causation, converting animals into perfect automatons." And he raises the problem, his problem, that neither anatomy, microscopy, nor animal experimentation are able to resolve: "free will, the most difficult problem, whose mystery lies not in physiology but in philosophy."

Hospital de la Princesa

The reason that ultimately led to the creation of Hospital de la Princesa in Madrid will always be surprising: a commemoration of the fortunate outcome of the attempted murder of Isabella II by the priest Merino (not to be confused with the guerrilla Jerónimo Merino), the irascible Franciscan moneylender Martín Merino Gómez (1789-1852), when the queen's corset saved her from the traitor's dagger, on 2 February 1852. Merino was executed by garotte at Campo de Guardias (the site occupied today by the Isabel II water tower, between Calle Bravo Murillo and Calle Santa Engracia in Madrid). The event and its outcome, reminiscent of a crime novel, were

Figure 5. Main façade of Hospital de la Princesa.

very popular at the time.[41] The hospital was inaugurated on 23 April 1857, its eight pavilions occupying the corner between Glorieta de San Bernardo (today, Glorieta Ruiz Giménez) and Paseo del Arenal (today, Calle de Alberto Aguilera) (Figure 5).

Simarro joined the hospital in 1877 as a "non-tenured physician" after completing a competitive examination, the selection method established in 1873. He was responsible for lecturing in physics, anatomy, histology, and physiology. This first stint at Hospital de la Princesa lasted only three months, as he then became director of the Santa Isabel psychiatric hospital in Leganés. He returned two years later to direct the Santa Isabel and Santa Lucía wards.[42] At the hospital, he resumed his friendship with Federico Rubio y Galí, who was dedicated to the federal republicanism of Pi i Margall. Rubio was a prestigious surgeon in Seville, where he had founded a Free School of Medicine and Surgery in 1868. But he may have reached his greatest prestige at Hospital de la Princesa in Madrid, where in 1880 he founded the Institute of Operative Therapy. Determined to provide training with the highest possible professional and scientific expertise, he enthusiastically promoted surgical specialties, including urology.[43]

Unfortunately, the building was severely damaged during the Civil War and its archives were destroyed; we therefore have no information on Simarro's activities during this second period there after he was forced to leave his position as director of the psychiatric hospital in Leganés. The hospital, now named Gran Hospital de la Beneficencia General del Estado since 1931, was demolished in 1962 and the new building was erected on Calle Diego de León.[44]

Santa Isabel psychiatric hospital in Leganés

The psychiatric hospital in Leganés, which at the time was a small town relatively removed from Madrid,

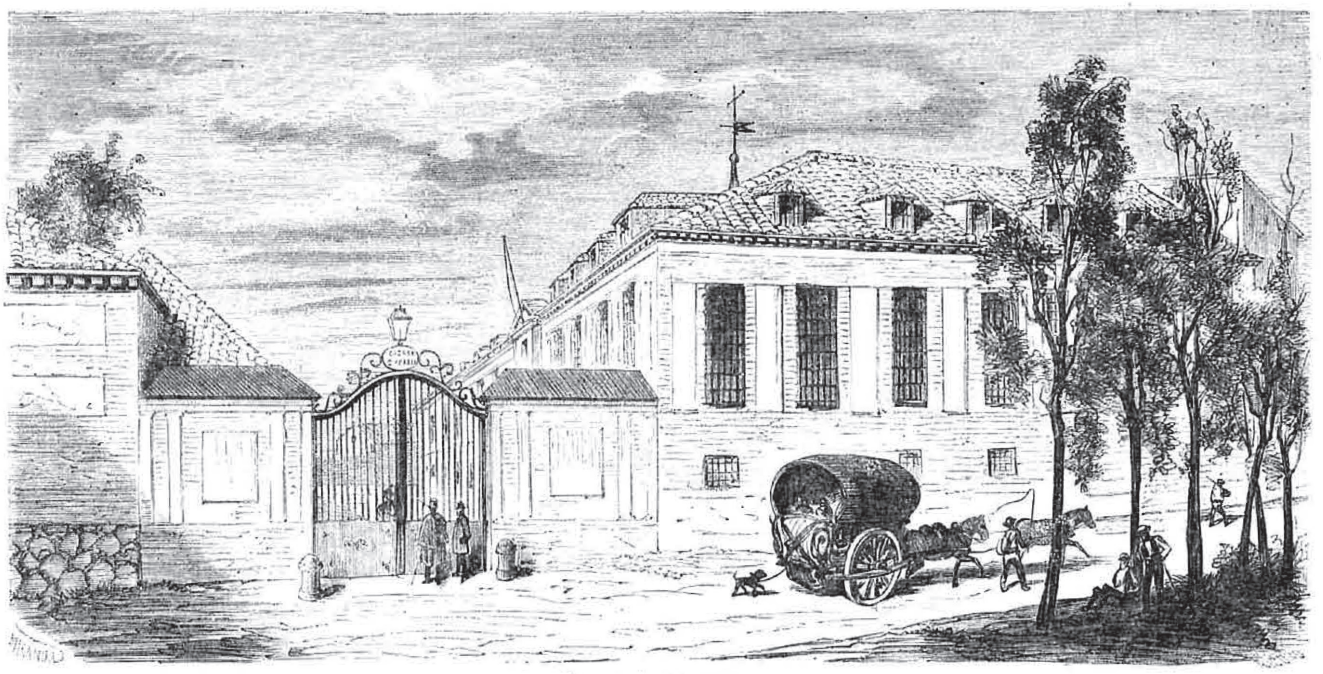


Figure 6. Leganés psychiatric hospital; engraving from 1872. Source: *La Ilustración Española y Americana*; 8 November 1872.

was born as a consequence of the Law of Charity of 1849. Built on the site of the old palace of the Duchess of Medinaceli, on 23 April 1852 it received around 50 patients transferred from the gloomy, cramped basements (the so-called "ward for the alienated") of Hospital Provincial de Madrid. Eusebio Martínez de Velasco (1836-1893) described the clear advantages of the new institution (Figure 6).[45] In *The disinherited,* Benito Pérez Galdós[46] (1843-1930) describes the atmosphere at the hospital around 1881; this novel is recommended for neurologists and psychiatrists. Dr Aurelio Menduguchía Carriche, who directed the centre and who is honoured with an avenue named after him in Leganés, describes the centre's deficiencies in the post-war years.[47]

Luis Simarro was only 26 years old when he accepted the position of director on 18 October 1877, in a transfer with the previous director Eduardo Gómez Navarrés, rather than the typical competitive examination. It was unusual that the institution should be directed by somebody who not only had training in psychiatry[48] but who also enjoyed the prestige afforded by the lectures he had given at the Ateneo and the ILE. During his two years as director, the hospital admitted 24 patients, whom he diagnosed with 24 different conditions; influenced by French psychiatry, he often used the aetiopathogenic concept of cerebral degenerationism, which was in vogue at the time.[49,50] In any case, he learned that what laypeople would characterise as "madness" often had little to do with reality.[51,52] The centre had an autopsy department located in one corner of the orchard, but there were often difficulties. Having discovered an activity deemed unacceptable, "the authorities obliged him to leave his position." In other words, he was expelled; thus, this young, disillusioned neuropsychiatrist had to leave behind an important role. It should be noted that the Manicomio Nacional de Leganés was a reference centre in Spain during the 20th century.[53]

Figure 7. Magnan (A), Duval (B), and Naquet (C), images from a memorial plaque and French newspapers from the time. Sources: Science Museum London (Magnan), Wellcome Collection (Duval), Bibliothèque nationale de France (Naquet).

Simarro in Paris

In late 1879, at the age of 29, Simarro decided to travel to Paris. He was unconcerned with leaving behind prominent positions in official medicine, which did not serve his objectives. His goal was to identify the morphological substrate of mental phenomena and a way of quantifying them. He had been at Aureliano Maestre de San Juan's laboratory when there had been the most criticism (in France and in Spain) of the value of microscopy ("celestial anatomy"). He was unconvinced by the received wisdom and intrigued by the specific role of nerve cells in intelligence and free will.[38]

He remained in Paris for five years, where he busily rushed from one service to the next, working with Mathias-Marie Duval (1844-1907) at the Faculty of Medicine of Paris and Jacques Joseph Valentin (Magnan) (1835-1936) at the Asile Sainte-Anne; he had an ideological affinity with both men. He also attended the theatrical clinical lessons at the Salpêtrière with Charcot and in the histology laboratory of Louis-Antoine Ranvier at Collège de France, near the laboratory of Claude Bernard. He was also reunited in Paris with Nicolás Salmerón, who had such a great influence on his life.[54]

The French alienists

Luis Simarro's unanswered questions may have been resolved by the French alienists of the day, who, following in the footsteps of Pinel and Esquirol, proposed novel ideas on the causes of mental illnesses. Bénédict Morel (1809-1873) had coined the term "degenerationism," referring to a progressive degradation of the brain due to a hereditary defect when either of an individual's parents had history of alcoholism, epilepsy, or syphilis, and even stroke or episodes of hysteria. Thus, patients were recognised by their "neuropathic antecedents" and by the presence of certain physical traits, particularly the configuration of the skull and the facial expression, which trained alienists were skilled in detecting. With a foundation in Darwinism,[55] degenerationism inevitably led to social exclusion, physical deterioration, and madness. Degeneration theory was adopted by

anatomists including Jules Bernard Luys (1828-1897), who described the subthalamic nucleus as a "masse accesoire du noyau rouge"[56(p43)] and who wrote one of the first treatises on mental illness. Regarding cerebral localisation, he proposed that "degenerationism" was caused by microhaemorrhages in the basal ganglia and thalamus, probably an autopsy finding bearing no real relation with the symptoms.[50]

Magnan (Figure 7A), working at what would be known today as a psychiatric emergency department at the Asile Sainte-Anne, was distinguished by his study and denunciation of the negative effects of absinthe, a spirit distilled from wormwood (65%-89% alcohol by volume) that was popular among French artists and writers in the second half of the 19th century. Intoxication with absinthe caused acute or chronic delirium that was even more severe than that caused by ethyl alcohol, with the differentiating characteristic that absinthe intoxication could present with seizures. Magnan argued for its consumption to be made illegal, which eventually came to pass in 1915.[57,58] It is difficult not to be affected by trends, even in science, and the influence of degeneration theory on Simarro is evident in his article "Sobre el concepto de locura moral" ("On the concept of moral insanity"), in which he proposes that diagnostic criteria may include heredity and certain physical traits, such as the characteristics of the skull.[59]

Time with Charcot at the Salpêtrière: republicanism and anticlericalism

Despite the lack of documentation, we may assume that Simarro would have attended Charcot's Friday clinical sessions in a crowded lecture room at the Salpêtrière.[60] In Pierre André Brouillet's (1857-1914) painting *A clinical lesson at the Salpêtrière*, in which the famous hysterical patient Blanche Wittman is shown falling weakly into the arms of Babinski,[61] not all of those present in the theatrical scene are neurologists. In the background, we see Mathias-Marie Duval and Alfred Naquet (1834-1916). Both men were acquaintances of Simarro, who had attended Duval's course at the Dupuytren Museum on evolution and the embryology of the brain, a noteworthy lecture that Simarro wrote about in the ILE's bulletin.[21,62] Ideologically, Naquet and Duval (Figures 7B and C) were extremely left-wing: ardently anticlerical, combative republicans, and staunch defenders of Darwinian evolution. This ideology led to conflict with the conservative bourgeoisie of the day. For instance,

Figure 8. A reading in the home of Alphonse Daudet (1), showing the anti-Semite Edmond de Goncourt (2); the French politician Léon Gambetta (3), who played an important role in the instauration of the French Third Republic; J.M. Charcot (4), shown in profile; and his wife Augustine Charcot (née Durvis) (5), playing with a fan. Source: Drumont E. La France Juive. Paris: C. Marpon et E. Flammarion; 1886. Subjects identified according to Figure 14 of: J.M. Hecht. The end of the soul. New York: Columbia University Press; 2003.

Naquet was forced to flee Spain after fiercely attacking religion, family, and private property.

Other physicians at the Salpêtrière shared this political stance, particularly after the proclamation of the Third Republic in 1875. One well-known example is Desiré-Magloire Bourneville (1840-1909), famous for describing tuberous sclerosis. An anticlerical free thinker, as a politician he introduced significant structural changes in hospitals and in education, from a far-left position.[63] The ideology of Charcot himself was perhaps not so far removed as has been assumed, at least with regard to the miracles at the Sanctuary of Our Lady of Lourdes and especially at the Grotto of Apparitions, where tradition

Figure 9. Ateneo de Madrid. Photograph by the author.

holds that the Virgin Mary appeared to Bernadette in 1858. Charcot published a 37-page article entitled "La foi qui guérit" ("The faith that cures") in *La Presse Médicale*, directed by Bourneville, in which he described the miraculous healing at the sanctuary in Lourdes. Regarding the possible mechanisms, he is prudent: "I do not deny it, this miraculous therapy cures."[64(p37)]

The image in Figure 8 appears to show Charcot's political relationships. J.M. Hecht's book *The end of the soul* (2003) includes a very poor reproduction of the image, originally published in 1886 by the fiercely anti-Semitic and antimasonic Édouard Drumont (1844-1917), who intended to use the image to denounce these supposed enemies.[65] The scene takes place in a charming lounge in the home of Alphonse Daudet (1840-1897), an old friend of Charcot's.

Illuminated by two candles, the author and playwright reads from his work *Kings in exile*, published in 1879.[66] Scarcely revolutionary, the novel is about a fictional king taking refuge in Paris after being deposed. After his restoration, he laments losing the pleasures he enjoyed in the French capital. The realist writer Émile Zola (1840-1902) described in his novel *Lourdes* the highly mystical atmosphere and the crisis of faith of the abbé Pierre Froment.[67] In his novel *Thérèse Raquin*,[68] a work that all neurologists should read, Zola was most probably inspired by patients with amyotrophic lateral sclerosis whom he had seen at the Pitié-Salpêtrière. Léon Gambetta (1838-1882), shown in the background of the illustration, appears not to be engaged with the reading. Charcot is shown in profile at the very edge of the image, while his wife Augustine Durvis appears distracted, playing with a fan.

The Ateneo de Madrid and the *ateneístas*

The Artistic, Scientific, and Literary Athenaeum of Madrid (Figure 9), today located on Calle del Prado, with its liberal mentality and openness to debate, was a key intellectual hub in Spain's capital throughout the 19th and 20th centuries. Created in 1835, after the dreadful reign of Ferdinand VII, the ideology of 19th-century Spanish liberalism developed within its halls.[69] It gathered a body of extremely qualified lecturers, including the most lucid minds of the day. The Ateneo's School for Superior Study was created by the institution's president Segismundo Moret y Prendergast (1833-1913) in October 1896, and had 24 subsidised chairs open for specialised postgraduate study. The institution was not reserved for the elite: the doctrine of "reformism from the ground up" was open to public opinion and the cost of instruction was accessible. The "great free university of Spain," as it was known, had a great influence over the Ministry for Public Education and the Fine Arts, with a view to achieving the much-desired education reform. "A sanctuary of science, a safe harbour for freedom […] the only safe refuge for thought," wrote the journalist Manuel de la Revilla y Moreno (1846-1881), editor of *Revista Contemporánea* between 1875 and 1879.[70] Famous *ateneístas* included Larra, Echegaray, Cánovas, Unamuno, Azaña, and countless others. Its library (including approximately 350 000 volumes) conserves a great part of the last two centuries of Spanish history (https://www.ateneodemadrid.com).

Simarro joined the Ateneo in 1876 as member number 3644, but had already been appointed the previous year as the fourth secretary of the Political Sciences section. He was soon recognised for his great intellectual ability, and was nominated for executive roles and to give lectures and classes. He participated in the "La España del siglo XIX" ("Spain in the 19th century") lecture series,[71,72] in which 72 students enrolled (1897-1898 academic year), sharing classes with José Echegaray, Alejandro San Martín, Gumersindo de Azcárate, and Ramón y Cajal. From 1898 to 1900, he was president of the Department of Natural, Physical, and Mathematical Sciences. Some of his lectures are not available today, such as one reviewing the history of the thermometer[69(p112)] (Ateneo de Madrid archive, consulted 6 August 2021).

He wrote an excellent biography of Matéu Orfila (1787-1853), who became famous in France due to his extraordinary talents (especially in expert reports of suspected poisoning), his success as a musician and singer at the elegant concert halls of Paris, and the considerable dissemination of his books (*Traité des poisons* and *Eléments de chimie médicale*). He influenced Pere Mata i Fontanet (1811-1877) in the implementation of legal medicine in Spain with his influential four-volume *Tratado de medicina y cirugía legal teórica y práctica seguido de un compendio de toxicología* ("Treatise on theoretical and practical legal medicine and surgery, followed by a compendium of toxicology"; 1874-1875), published in five editions. A romantic character with a broad, diverse body of work, he was a high-flying politician and fought for freedom, which led to his exile and persecution. Revealing a patriotic, regenerationist streak with the examples of Orfila and Mata, Simarro concludes that: "In such a way, any one of us, working tirelessly in the culture itself, may elevate the scientific community in Spain."[71,72] Surprisingly, his impeccable biography of Orfila is not addressed in recent reviews.[73,74]

Simarro was hurt by Spain. He took issue with the saying that Spain had nothing to envy other nations in terms of science, arguing that "if we study the matter in detail, we will better serve our country by signalling the shortcomings of its nature and the decadence of its scientific movement than by celebrating feigned glories and singing praises that are in no way justified by the facts."

Simarro admits the importance of the scientific movement until the 15th century, but "because of the religious reform, and coinciding with it, a retrograde movement was created in our nation." He admires Andrés Laguna, of Segovia (whom he describes as "the Spanish Hippocrates"), and his translation of *Dioscorides*. He mentions the letters sent by Juan Luis Vives to Erasmus, after the proceedings against the latter in Valladolid, in which Vives did what he could to defend him: "We live in very difficult times in which we may neither speak nor remain silent without danger." From the barricades of his youth to his protest against the trial and death of Ferrer,[75] Simarro was always a committed defender of liberty. He promoted the League of Nations against the death penalty, founded the Spanish League for the Defence of Human and Citizens' Rights in 1913, and was a member of the Spanish Grand Orient of freemasons.[B]

Simarro and neurology

Simarro's great life project was the study of the nervous system, from several perspectives, at a time when the difference between neurology and psychiatry was yet to be defined. He had a deep understanding of the anatomy and physiology of the nervous system (Figure 10), and his laboratory as chair of experimental psychology was equipped with apparatus including a Marey tambour for graphical recordings.[76] His neurological examinations showed a striking level of refinement, for example in the trial of Marquess Martín Larios,[77] and he had excellent knowledge of brain localisation,[5] enabling him to locate a brain tumour that was subsequently treated surgically by Alejandro San Martín.[78,79]

Hughlings Jackson (1835-1911), the father of British neurology,[80] explained clinical phenomena based on the Darwinian theories applied to humans by the philosopher Herbert Spencer (1820-1903): "Higher life forms evolved from lower ones." He was one of Simarro's favourite authors. According to Jackson, who was halfway between neurologist and philosopher, cognitive functions or "the conscious mind" were related with "prefrontal regions" and from an evolutionary perspective occupied the highest hierarchical level; these controlled the lower strata (the Rolandic cortex and pontobulbar and spinal levels), which would be released or uninhibited if the upper level was damaged, causing clinical symptoms.[81-83]

[B]A key article in the recovery of Simarro's memory was published by J. Javier Campos Bueno, *Memoria del doctor Simarro* (*El País*, 4 April 1984).

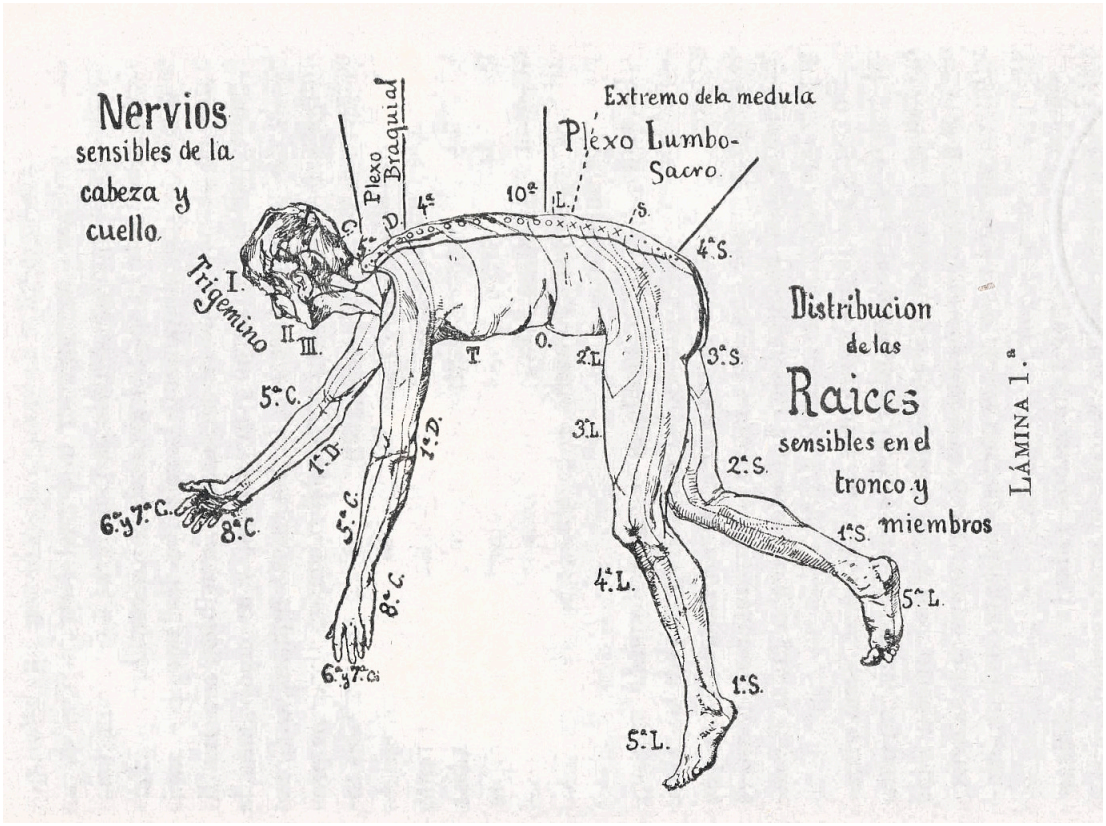
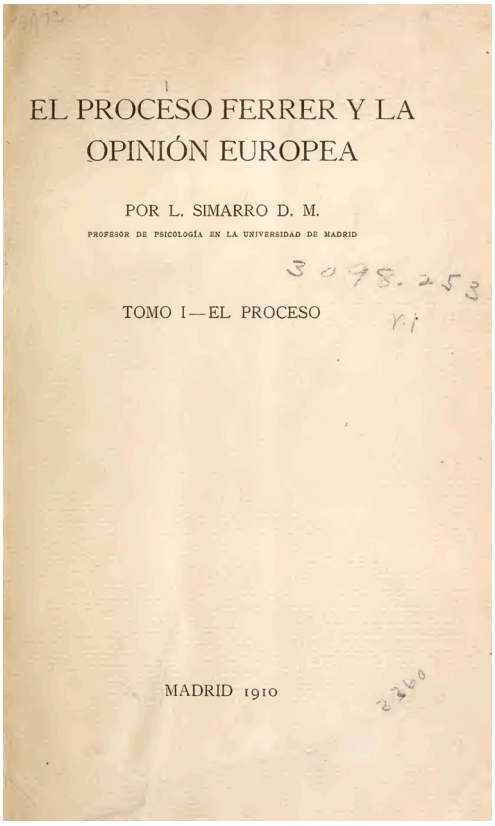


Figure 10. A drawing by Simarro, showing the territories of the nerve roots. Source: Vademécum clínico-terapéutico. Madrid: Romo y Fussel; 1898. p. 465-575.

Simarro's work often reflects Hughlings Jackson's view of "evolutionary neurology."[84] For instance, he repeatedly uses the term regression (a step back in the evolutionary process) in the book *Vademécum* (1898), a monograph including articles by Gayarre, Madinaveitia, Sandoval, Azúa, and Cisneros. We may also cite his discussion of elderly people presenting an "inability to learn, poverty of ideas, and childishness," which he diagnosed as senile dementia: "the regression, without disease, that occurs with advanced age." And with it, the return of infantile behaviour, the supposedly natural (and not pathological) evolution of humans. The same occurs in severe alterations of consciousness, for example in some comas, in which "regression occurs inversely to development, in other words [after damage to] the most delicate and fragile structures."

He applies the concept of cerebral degenerationism to the problem of "moral insanity,"[80] in which alienists collaborating in criminal trials had to determine whether the suspect was guilty or whether they committed their crime because they belonged to a genetically vulnerable family in the arduous struggle for life. He also used the criteria of degeneration theory in his forensic examination (traits including heredity, the shape of the skull, and physiognomy) in the famous Galeote case.[50] The same occurs in his outreach article on excessive mental labour in teaching, which would result in degeneration of the brain. History teaches that "the great struggle for the survival of the fittest leads to the extinction of aristocratic families and, within two or three generations, to the destruction of all capacity to think."[85]


EL PROCESO FERRER Y LA OPINIÓN EUROPEA

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PROFESOR DE PSICOLOGÍA EN LA UNIVERSIDAD DE MADRID

TOMO I—EL PROCESO

MADRID 1910

Figure 11. Left: Francisco Ferrer Guardia (1859-1909). Right: front page of the only published volume (spanning over 600 pages) of Simarro's *El proceso Ferrer y la opinión europea*, from 1910.

Chair of experimental psychology: Simarro's illness

Giner de los Ríos exerted his influence to ensure the creation of a chair of experimental psychology as a subject for doctoral study, with classes at the Department of Natural Sciences of the Faculty of Science. The position was filled with a competitive examination on 70 subjects; to this end, an examining board was appointed, chaired by Nicolás Salmerón, an old friend of Simarro's. Simarro was the only candidate, and demonstrated his vast knowledge during the examination; on 14 May 1902 he was named tenured chair by the Count of Romanones (1863-1950). It had recently been stipulated that the application process for open positions for physicians at spa resorts would take into account possession of a doctorate[C]; as a result, numerous physicians rushed to enrol in his classes.

What nobody could have predicted was the well-known failure of this endeavour, coinciding with a difficult period of his life: a delegation of indignant students met with the education minister Juan de la Cierva (1864-1938), who had a well-known sense of duty, to complain that "nobody understood [Simarro's] classes," and even requested a different lecturer for the remainder of the academic year.[16(p121-2)] The minister took the situation to Cabinet, where the matter was dismissed as a mere "political revolt." However, the scandal injured the professor's dignity.

Previously so lucid and didactic in his lectures and texts, the neuropsychiatrist had changed. One example of this

[C]Archivo Central del Ministerio de Educación (sign. 5432-37).

is his article "De la iteración" ("On iteration"),[D] written in 1902, which he presented as a dissertation to access the chair of experimental psychology,[86] a typically dense text on the edge of intelligibility. Nonetheless, his hypothesis is correct: repetition of motor sequences opens new pathways that configure the structural basis of learning through repetition.[87] We see hints of what the brilliant C. David Marsden (1938-1998) summarises as the function of the basal ganglia: "the automatic execution of learned motor plans" organised in the supplementary motor area,[88] the learning of motor sequences as the theoretical foundation of rehabilitation[89,90] and many other human activities.

The sickness and death in 1903 of his wife Mercedes Roca Cabezas, whom he married in 1887, plunged him into a deep depression, so evident that the education minister Juan de la Cierva suggested that he take sick leave (in fact, Simarro was diagnosed with "nephritis"). He shared his sorrows with his patient and friend the poet Juan Ramón Jiménez, with whom he lived at Calle Conde de Aranda after losing his wife. Given his condition, he struggled to meet the obligations of the chair. Thus, from the Palais d'Orsay hotel in Paris, he wrote to his friend Cipriano Rodrigo Lavín on 23 September 1915 to request that he take charge of the psychology examinations, suggesting that he may even be absent at the beginning of the academic year.[5]

Freemasonry and politics: the Ferrer Guardia case

When the anarchist and pedagogist Francisco Ferrer Guardia (1859-1909) was executed in the trench of the Santa Eulalia bastion of Montjuïc castle in Barcelona after summary proceedings before a military tribunal, Simarro had reached the 33rd degree in the Federation of the Spanish Grand Orient, Iberian Lodge no. 7 of Madrid.[91] In other words, he held an important position in the organisation. Ferrer (Figure 11) had created the Modern School in Barcelona, an innovative movement based on rationalist, scientific education; classes were not separated by sex, and the school was distant from the Catholic orthodoxy. Unlike Mateo Morral, another anarchist who worked as a librarian at the Modern School, Ferrer had declared himself a pacifist. Memorably, Mateo Morral threw a bomb at the wedding procession of King Alfonso XIII and Victoria Eugenie of Battenberg on 31 May 1906. The bomb was thrown from the fourth floor of a guesthouse at number 88, Calle Mayor, beside the Instituto Italiano di Cultura (a patient who was watching the parade from a window recounted to the author of this text how her younger sister's pink dress was stained with blood, one of the 25 casualties). Mateo Morral fled and was fatally shot by a guard in the outskirts of Madrid.[92]

In turn, Ferrer Guardia was charged with instigating the major riots that took place in Barcelona between 26 July and 2 August 1909, the so-called Tragic Week. The social atmosphere in the city was extremely tense, with frequent attacks by anarchists on landlords and the assets of a rich bourgeoisie and an indifferent Catholic church. The rioting was triggered by the deployment of military reservists to fight in the Rif mountains, whose families lacked the means to secure their discharge through a payment to the state. The first two church burnings in Poble Nou were followed by the macabre desecration of convents and generalised arson (*La Vanguardia*, 18 November 2014).

Concerned with the injustice of the sentence, Simarro drafted an extensive 655-page book in Ferrer's defence (the only book he published in his life), with only the first volume being published: *El proceso Ferrer y la opinión europea* ("The Ferrer case and European opinion").[93] In a certain sense, it echoes the (much shorter) open letter by Émile Zola to the French president, published in the newspaper *L'Aurore* in 1898, defending the Jewish captain Alfred Dreyfus against the charge of high treason. Zola was sentenced to exile and died in mysterious circumstances, apparently due to gas emanations. "This poor, beloved Spain of mine does not share the morality and civilisation of Europe," lamented Simarro in his book.

Simarro joined Iberian Lodge no. 7 (Federation of the Spanish Grand Orient) on 17 October 1912 under the symbolic name Franklin, reaching the 33rd degree. He was persecuted for the rest of his life. As mentioned in the introduction, Francisco Franco, writing in the Falangist newspaper *Arriba* under the strange pseudonym Jakim Boor, published a series of articles between 1946 and 1951 denouncing communism and freemasonry, the *bêtes noires* of his dictatorial regime: "a cancer that corrodes our institutions and hates the church and Spanish tradition." "As the culmination of an

[D]"Iteration" is derived from the Latin *iterario*, to repeat; Simarro gives it the meaning of *iter*, path.

international campaign to protest against the execution of Francisco Ferrer Guardia […], a Spanish Commission chaired by Dr Simarro attended the demonstration of 21 August." "That freemason, with astounding audacity, permitted himself one day to offer our monarch Alfonso XIII the international support of the freemasons if he would accept his membership of the lodges" (J. Boor, *Arriba*, 4 July 1950).

In Brussels, where Ferrer had lived between 1906 and 1909, a monument in his memory has stood in front of the old Faculty of Education since 1909. In 1931, the Spanish Republic requested a replica, but it was not sent until 1990. The replica currently stands on Avenida de l'Estadi in Barcelona (*El País*, Barcelona, 9 November 2021).

Simarro's tomb at the civil cemetery of Madrid (Figure 12) is difficult to find, located behind the monumental mausoleums of the presidents of the First Spanish Republic, facing the tombs of the Krausists on the opposite side of the path. Since freemasonry was denounced by Pope Clement XII in 1738, its relationship with the Catholic church has been one of mistrust and incomprehension, if not confrontation. For some, such as the Vicar General of the Diocese of Menorca, the two institutions are incompatible (*Menorca* newspaper, 25 July 2021). Today, a revisionist movement of the past and present "dispassionately addresses objective reality."[94]

Figure 12. The tomb of Luis Simarro at the civil cemetery of Madrid, near the tombs of the Spanish Krausists. The epitaph reads: "In memory of Luis Simarro Lacabra, physician and chair of the School of Science of the Universidad Central of this city, who died on 19 June 1921, aged 69 years." On a recent visit by the author, the headstone was covered in a thick layer of moss and was almost illegible.

Great friends

As well as Joaquín Sorolla Bastida, Simarro's circle of personal friends included several other painters, such as Emilio Sala (1850-1910) and the landscapist Aureliano de Beruete (1845-1912). He was also friends with such writers as Juan Ramón Jiménez (1881-1958), who died in exile in Puerto Rico, and the journalist Ramón Pérez de Ayala (1880-1962).[93]

But his two closest friends were the internist Juan Madinaveitia and the painter Joaquín Sorolla; the group frequently travelled together to San Sebastián. He was well regarded by other contemporaries, such as Santiago Ramón y Cajal, who lamented in a letter to Cortezo in 1921, the year of Simarro's death: "He died without reading my memoirs and without knowing the esteem and love I held for him."[95]

1. Juan Madinaveitia Ortiz de Zárate (1861-1938)

Neighbours on Calle General Oráa, they not only shared a laboratory (where Madinaveitia provided brains from his department at the Hospital Provincial), but also went on excursions together to the Guadarrama mountains outside Madrid. In an article on his web page (http://www.carlosdeiracheta.com) Carlos de Iracheta Madinaveitia recalls how Madinaveitia would walk naked through the hills of El Pardo (the hygienist zeal followed by a faithful enthusiasm for the Krausists); his home in El Ventorrillo, in the village of Cercedilla, where the Spanish Mountaineering Club was based since 1903, was thoughtlessly demolished as it was considered obsolete. "From his native Oñate, in Gipuzkoa, where he practised as a physician, he finally won a competitive examination to become head of a ward at the Hospital Provincial."[96] He is considered the father of Spanish gastroenterology. He was an expert in history-taking to

Figure 13. Sorolla's painting *A research* (1897). Museo Sorolla (inventory no. 00417). Reproduced with permission.

reach a precise diagnosis; as an enthusiastic proponent of the anatomical-clinical method, his diagnosis may have been confirmed or disproved after the post mortem examination.[97] I remember as a student seeing a plaque in one of the lecture rooms at Hospital Provincial de Madrid, which read: "In this room, Juan Madinaveitia explained the pathology of the digestive system"; the current whereabouts of this historical object is unknown. His friend Sorolla painted his portrait in oil paint, and the written correspondence between the two is held at the Sorolla Museum in Madrid. An anarchist and defender of the Bolshevik revolution, in 1938 he travelled from Barcelona to France, where he died on 2 November. His death went nearly unnoticed (*El Socialista*, 27 June 1938).

2. Joaquín Sorolla y Bastida (1863-1923)

The friendship between Simarro and Sorolla went beyond their childhood and youth in Valencia. Sorolla's children studied at the ILE, and both men were influenced by Giner de los Ríos. The republican author Vicente Blasco Ibáñez was an influence on Sorolla's early paintings. As both men lived in Madrid, Simarro probably became the family physician for the Sorollas (he is known to have treated one of Sorolla's daughters for tuberculosis).[98] Sorolla painted him on at least three occasions (two of these portraits are held at the Universidad Complutense de Madrid as part of the Simarro Legacy). Perhaps the most famous painting at the Sorolla Museum is the portrait of Luis Simarro surrounded by a group of disciples (Figure 13), painted in 1897, for which the artist moved with his equipment to the researcher's home. Late at night, lit by an Auer lamp, he is shown manipulating an embryo with a Leitz microtome; in the foreground, a flask of potassium dichromate glows cherry-red; the solution would be used to impregnate fragments of nerve tissue to harden them before they were submerged

in a silver nitrate solution, according to the technique described by Golgi.[99] J. Javier Campos Bueno, an expert on the life and works of Simarro, identified the expectant figures leaning over their master: Eduardo García del Real, Sama, Botella, Cejudo, and García del Mazo.[100] However, the bearded figure sketched timidly in the shadow was yet to be identified. In a telephone call from Pamplona, Ana de la Quadra Salcedo informed me that it was her grandfather, Miguel ("the man with the beard, in semi-darkness").

On 17 June 1920, Sorolla collapsed while painting the beautiful garden of his house on Avenida del General Martínez Campos (today, at number 37). He survived for three years under the dedicated care of his wife Clotilde. Sorolla had been persuaded by an American philanthropist and Hispanist to undertake an imprudent project, to be completed within five years, to paint popular scenes from across the country; this surely contributed to his early death. He was forced to travel constantly, often living in miserable conditions. He painted outdoors, as was his habit, suffering the bitter cold at Ermita de Mirón in Soria and the intense humidity of San Sebastián. "It rains at dawn, and I suffer with my headaches": this pain tormented him after hours of hard work. "I smoke and smoke as I think about my painting; I shall have to stop." It has been speculated that various toxic substances in his solvents and paints may have caused his maladies. Between the stress of completing the huge project and the presence of several vascular risk factors (sedentary lifestyle, smoking), we may easily suspect that he presented chronic tension-type headache and died due to stroke, at a time when the medical management of his probable arterial hypertension was poorly understood.

On 10 August 1923, the family was sheltering from the heat of the Spanish interior plateau in Cercedilla, in the mountains outside Madrid. Since Simarro had died, it was Juan Madinaveitia, another lifelong friend, who attended Sorolla in his final days. Sorolla is buried in the Valencia general cemetery.

3. Miguel Gayarre y Espinal (1866-1936)

Gayarre trained in Germany under the neurologist Hermann Oppenheim,[101] as noted by Carlos de Iracheta in his blog about Madinaveitia (personal correspondence, 14 January 1917). Perhaps due to sickness, Gayarre returned to his native Navarre in 1936. His house was burgled, and after storing some of his belongings at the Italian embassy, his books ended up at the Rastro flea market in Madrid; some were found by the author of this article. He died soon after in Hendaye, France; the date of his death is not well known, and we do not know the events that occurred in his final days.[102]

4. Juan Ramón Jiménez Mantecón (1881-1958)

The relationship between Simarro and the poet and Nobel laureate Juan Ramón Jiménez Mantecón went far beyond that of a physician and his patient. This "introverted, super-sensitive man, terrified by the prospect of sudden death," was admitted on 8 May 1901 to the Maison de Santé du Castel D'Andorte, whose director, Dr Lalanne, was a friend of Simarro. After returning to Madrid, Jiménez decided to admit himself permanently to the Nuestra Señora del Rosario sanatorium, an elegant private centre surrounded by beautiful gardens, inaugurated by queen Maria Christina of Austria over 130 years ago (http://www.hospitalrosario.es). Simarro continued to attend him and, after the death of his first wife Mercedes Roca Cabezas, he moved into Jiménez' house with Nicolás Achúcarro. The poet's histrionic personality is exemplified by an incident in which, pistol in hand, he threatened to kill himself in front of Simarro; the latter responded by suggesting that if that were his intention, he should throw himself from the balcony, a quicker method. Over his life, the poet presented numerous depressive episodes, some associated with functional neurological disorders; for instance, in a letter written in 1905 to his friend Gregorio Martínez, he describes "convulsive attacks," "paralysis," and "momentary blindness."[103,104] He spent most of his long years of political exile in medical institutions in Puerto Rico and the United States, with different diagnostic labels ("nervous depression," "melancholic depressive disorder," "panic attacks," etc). Without a doubt, he was the most peculiar of the neuropsychiatrist's friends.

Conclusions

To date (and with some exceptions, such as the contribution of I. Corral and C. Corral [2000]), most of the available information on Simarro is from Spanish psychologists, no doubt motivated by their understandable pride in the creation of the first chair of psychology in the country. This special issue broadens the perspective from which we analyse his life: the institutions on which he left an imprint; the fruitful relationship between two great intellectuals (Simarro and Cajal); his neurohistological work; and the influence of

Hughlings Jackson on his understanding of neurological examination and on his brilliant intuition regarding learning in the creation of motor programmes through repetition (or "iteration," in Simarro's terminology). As a neurobiologist, he wanted to understand the soul, mental fatigue, consciousness, and free will in the patients of the Leganés psychiatric hospital. The theory of cerebral degenerationism proposed by Magnan, his Parisian guide in psychiatry, still did not enable him to understand these complex issues.

In the final stage of his life, the rebel with a cause of his youth had become a "golden" clinical neurospsychiatrist, in the words of Lafora. Yet he never ceased his research work, even at his own home, surrounded by expectant disciples, as captured in the famous painting by his friend Sorolla (Figure 13). It was precisely Gonzalo R. Lafora who, at the time of his death, spoke these heartfelt words of his old master:

> The greatest Spanish neurologist and psychiatrist of the second half of the 19th century […]; at his laboratory he kept large collections of neurological and embryological microscopy preparations. He gathered around him a group of enthusiastic researchers, attracted by his knowledge and his qualities as an instructor. A great, wise, kind, simple man, and an excellent advisor for our works.

With this special issue, we honour Simarro on the centenary of his death.

Acknowledgements

The author wishes to thank Pilar Fernández of the archive of the Ateneo de Madrid for her assistance in gathering information on Luis Simarro's relationship with this century-old institution; Vanessa Cisteré for providing copies of the ILE's bulletin and the source for Figure 8; and Dr Antonio Barceló Rosselló for patiently reviewing the manuscript.

Conflicts of interest

The author has no conflicts of interest to declare.

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