Giné y Partagás (1836-1903), a forerunner in Spanish neurology

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ABSTRACT

Introduction. The specialty of neurology, understood as a well-defined specialty with its own personality, established aims, standard procedures, and societal organisation, emerged in the 19th century as a fusion of different disciplines, including psychiatry. In Spain, advances in the neurosciences contrasted starkly with the overall paucity of scientific activity. One factor favouring the development of psychiatry in our country was that it was practised in insane asylums, especially in the growing city of Barcelona. Juan Giné y Partagás (1836-1903) is known as both the founder of the Nueva Belén asylum and the father of Spanish psychiatry. Departing from an organicist viewpoint, he would create an institution, attract a group of students, and publish journals whose content foreshadowed later developments, including the emergence of neurology.
Methods. We reviewed the author's original writings and located them in the context of European neurology and psychiatry. The biography of Giné y Partagás was also reconstructed using the limited sources available.
Results. Giné was astonishingly industrious in acquiring a multidisciplinary education and creating a model psychiatric institution, the Nueva Belén asylum. His adoption of positivist approaches to psychiatry, and his drive to emulate Pinel and Esquirol, pushed him to apply and teach the organicist doctrines of the French school of clinical anatomy. He also wrote books, the most important of which was his groundbreaking *Tratado de frenopatología.*
Conclusions. The time has come to highlight Giné y Partagás' contributions to what would later be known as neurology.

KEYWORDS
J. Giné y Partagás, history of neurology, history of psychiatry, asylum, Nueva Belén Asylum, 19th century, positivism

España es el país típico de los precursores
Ramón y Cajal

Introduction

The study of nervous system diseases can be traced back to the emergence of medicine itself. Accurate evaluations of certain nervous system diseases, based on precise empirical observations, were produced even by pre-technological societies. However, it was Thomas Willis (1621-1675) who wrote textbooks listing nervous system diseases and coined the term 'neurology' (*Cerebri Anatome*). Neurology, understood as a well-defined specialty with its own personality, established aims, standard procedures, and professional bodies, emerged little by little in the 19th century as a fusion of different disciplines, including psychiatry. Spanish neurology developed late compared to both psychiatry in Spain and neurology in the rest of Europe (scientific progress came to a near standstill under Ferdinand VII). However, as in Europe, neurology arose from multiple disciplines, including internal medicine, general and clinical neuroscience, and psychiatry itself. Juan Giné y Partagás (1836-1903), a pioneer in Spanish psychiatry, was able to summarise the bulk of contemporary European knowledge of neurology in a groundbreaking psychiatry textbook which he titled *Tratado teórico-práctico de frenopatología*. While his work has largely been forgotten, neurologists should recollect his contributions as a forerunner in their field. This article aims to raise awareness of the works of Giné y Partagás.

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Methods

Information on the life and works of this figure was essentially extracted from primary sources catalogued in the Saturnino Hernández bequest, which is kept by the library of Hospital Príncipe de Asturias (Alcalá de Henares, Madrid).

Results

Neuroscience in the 19th century and the birth of clinical neurology

Research into the anatomy and physiology of each component of the nervous system unquestionably contributed to the emergence of our specialty. While comprehension of the nervous system arrived relatively late in the Age of Enlightenment, the 19th century was marked by a series of breakthroughs. We provide a brief summary of some of the more significant moments in the rise of neurology.

Neuroanatomy was the most fruitful area of morphological research in that century. Important neuroanatomists included Bell (1774-1842), Burdach (1776-1847), Baillarger (1806-1890), Flechsig (1847-1929), Meynert (1833-1892), Ranvier (1835-1922), and Rolando (1773-1841). Even more significant was the vanguard of anatomical and clinical research led by Broca (1824-1880), Charcot (1825-1893), Wernicke (1848-1905), Pierre Marie (1853-1940), and Waller (1816-1870), whose experiments in anatomy revealed 'Wallerian degeneration'.

On the other hand, microscopy and staining methods improved, which resulted in the description of the cellular model of the animal organism. Research by Schwann (1810-1882), Schleiden (1804-1881), and Virchow (1821-1902) was crucial for unravelling the enigmatic fine anatomy of the nervous system (and their discoveries would be used by the great nervous system histologists, including Ramón y Cajal [1852-1934] and his school). These early figures, especially the French clinical anatomists, contributed to the knowledge base of Giné y Partagás, and he applied their approaches whenever he could. The extraordinary complexity of nerve function was defined more clearly at the end of the 18th century, when the nerve impulse was described as an electrical signal and galvanic experiments on nerves yielded a series of laws (Valli, 1762-1816). As the first "electrical century" progressed, the Bell–Magendie law (1811-1822) clarified the sensory and motor functions of spinal nerve roots; the speed of the nervous impulse was measured (Helmholz, 1850); and multiple applications for electrophysiology were discovered, especially clinical uses for *l'électrisation localisée* (Duchenne de Boulogne, 1806-1875). The latter completed detailed analyses of hundreds of cases *avec sa pile et sa bobine*, identifying various diseases. He was a role model for one of his followers, Jean-Martin Charcot, as well as for Barraquer Roviralta, one of the founding fathers of Spanish neurology.

In passing, we will list a few examples of the subsequent discoveries that illustrated the workings of the nervous system: the identification of the spinal cord as the major system of conduits, with the individual functions of the fascicles (Goll, Burdach, Flechsig); and breakthroughs in understanding the purpose of reflexes (Sherrington). Likewise, atonia, asthenia and astasia of the cerebellum were catalogued by Luciani between 1884 and 1894, and that structure's functional anatomy was described by Bolk between 1902 and 1906.

But the greatest breakthrough, the finding that opened the door to cerebral analysis, was Broca's discovery of the seat of 'articulate language' in the posterior part of the left inferior frontal gyrus. This took place in 1861, at the height of Giné's career. Phrenological speculations on brain localisation were published by Gall (1758-1828) and Spurzheim (1776-1834) in the first half of the 19th century (and in Spain, by Mariano Cubí, 1801-1875). These teachings were widely repeated, but interest soon faded as scientists began a race to situate mental functions in the brain. Giné's writings also refer to the debates over hemispheric dominance and language. In summary, the nervous system, divided into the somatic nervous system and the autonomic nervous system, is an anatomical and physiological entity whose functions are communication, conduction, and stimulation. It forms an array of centres linked to one another with association fibres, and to the rest of the body with projection fibres.

Jean-Martin Charcot (1825-1893), the greatest figure in early neurology, was the one to continue and renew the approach to clinical anatomy professed by the French school in the tradition of Bichat and Laënnec. Charcot began studying internal medicine, especially chronic hepatobiliary and kidney diseases, and he applied his powers of observation and his knowledge of anatomical pathology to the emerging field of neurology. Charcot worked in the anatomical pathology department and succeeded Vulpian as its chair. Ten years later, a new chair, this time of nervous system diseases, was created just for him. Neurology had been born, and La Salpêtrière would be the first hospital

offering that specialty. His *leçons du mardi* and his brilliant followers (a group of more than 20 students including Brissaud, Pierre Marie, and Babinski) applied the anatomo-clinical method to create a wide-reaching and scientifically grounded concept of neurology that would astonish the world. The great variety of symptoms and their multiple signs would permit precise localisation of different lesions in a complex universe of nervous pathways and centres, especially in the peripheral nervous system, cerebellum, spinal cord, and brain stem, although less so in the cerebrum. Semiology would reach its apex in the history of medicine. The discipline of neurology was making tracks. The brilliant anatomo-clinical method was more or less able to rewrite the approach to pathology, despite its failure to determine a substrate for certain psychiatric disorders, such as hysteria. Understanding of aetiology progressed with the acquisition of physiological knowledge, which was usually laboratory-based, in the tradition of Claude Bernard.

This brief summary of neurological history would be incomplete without a mention of such German authors as Westphal (1833-1890), Erb (1840-1921), and Wernicke (1848-1905), in addition to Jackson (1835-1911), whose dynamic and integrated conception of the brain included anatomical and functional levels. This holistic vision of the brain was pitted against Broca's localisationist view. Willis's treatise would be replaced by newer gospels of neurology, written by C. P. Ollivier d'Angers of France (1796-1845), England's J. Abercrombie (1780-1844), and M. H. Romberg of Prussia (1795-1873).

The origin of psychiatry

Philippe Pinel (1755-1826), a son of the French revolution, was extraordinarily prestigious and influential, and many consider him the father of psychiatry. His legendary exploits of "breaking the chains of the insane" and abolishing coercive practices, first in Hôpital Bicêtre and later in La Salpêtrière "*en l'an II de la République*", caught the attention of every asylum director in Europe. The ideas and practices that he implemented during the revolutionary period were derived from the Enlightenment (*more botanico* taxonomy) and they already pointed to causative anatomical or organic lesions, in line with Morgagni's teachings. His 'philosophical nosography' was the first step in classifying mental illness (melancholy, mania, idiocy, and dementia) from a naturalist perspective. Insanity was viewed as a loss of reason that could be treated using procedures specific to the new specialty of psychiatry: the new (but not necessarily harmless) doctrines of moral therapy and non-restraint.[1]

Psychiatry became an independent specialty in the 18th century, outstripping neurology thanks to the Revolution's support for Pinel, and also to the speculative contributions of German psychiatry (*Naturphilosophie*) under Reil (1759-1813). Reil coined the term *Psychiatrie* in opposition to the French school's clinical and descriptive term, *médecine de l'ésprit*. The French school included Pinel's successor Esquirol (1772-1840) and his students Georget and Falret, who studied the numerous sensorimotor and psychopathological symptoms of general paresis; by that time, Romberg had already used tabes dorsalis as a model disease for describing damage in the dorsal columns of the spinal cord. Both Pinel and Esquirol exerted a direct influence on Giné. In the end, German psychiatry became more organicist (Griesinger, 1817-1868; Kahlbaum, 1828-1899), reaching its apex with Kraepelin (1855-1926), the leading figure in German psychiatry in the early 20th century. His nosographic studies and nosological classifications were based on the course and progression of the disease. This not entirely satisfactory attempt at identifying mental illness was also compounded by inborn criteria, known to Morel and Magnan as 'degeneration', or 'hereditary predisposition' according to Krafft-Ebing.

Most psychiatrists (Griesinger, Meynert, Nissl, Alzheimer, Bonhoeffer) met with varying degrees of success in their search for a somatic basis for different mental illnesses. A substantial part of what was considered psychiatry was neurology and vice versa, giving rise to neuropsychiatry, especially in Germany. However, psychiatry was taking shape as an independent discipline outside of Spain thanks to asylum improvements and moral therapy, which has already been mentioned. The lack of a somatic explanation for many illnesses, such as hysteria, was responsible for the appearance of the shaky concept of psychogenesis (Charcot, Janet, Freud).

This formative moment in the history of both specialties provides an opportunity to return to the subject of Giné y Partagás and briefly present the state of affairs in Spain.

The birth of psychiatry and neurology in Spain

Our protagonist lived in times best described by medical historian Laín Entralgo's cutting assessment of 19th century Spanish psychiatry: "What was Spanish psychiatry doing while the debate on mental illness was raging?

Not a thing. Not a single Spanish name can be listed as having a modicum of relevance in the history of 19th century psychiatry".[2(pXII-XIII)] The only ones to save Spain from disaster were the hard-working and dedicated figures of Giné y Partagás and the internist Drumen y Millet. Not even Mata and Simarro were held in regard for anything other than their elegant rhetoric. Spain would have to wait until the dawn of the 20th century, when Cajal's work was flourishing, to make a noteworthy contribution to neurology or psychiatry.

In describing this period in the history of Spanish psychiatry, Giné wrote the following:

> Spain may boast of glorious beginnings with the founding of its asylums. However, it is with sadness that I must confess that those generous steps were taken in a bygone time, after which the situation remained largely and shamefully unchanged; until only a few years ago, it was as if we did not even belong in Europe.[3(p16)]

Until 1821, science in our country was very nearly stagnant, and many of our French-educated doctors were forced to emigrate. Then came a series of short periods of liberalisation. The Care Law was passed in 1822, during the 'Liberal Triennium', and redrafted in 1834; it aimed to create infrastructure for psychiatric institutions, but this would not be completed in what remained of the century.

The most influential works in the budding field of psychiatry were Pinel's 1801 treatise on insanity, translated into Spanish in 1804 by Luis Guarnerio as *Tratado médico filosófico de la enajenación del alma o manía*[4]; and Esquirol's compendium of mental maladies, translated as *Tratado completo de las enajenaciones mentales*. Its second edition of 1856 was revised by Pedro Mata.[5]

Pedro Mata y Fontanet (1811-1877), from Reus in Catalonia, represents the "generation of 1841", a group of liberal doctors who dedicated much of their energy to transforming Spain politically. His early life experiences included both prison and exile (in Marseille and Montpellier), as well as a succession of political appointments in Barcelona and Madrid. Mata's enthusiasm for writing was seen in both the political and medical spheres as he attempted to modernise what he had learned (under Orfila in Montpellier) about legal medicine and the legal responsibility of the mentally ill, a key topic among 19th-century psychiatrists. Spain's first chairs of legal medicine were created thanks to his tireless efforts. Pedro Mata advocated the somaticist psychiatry of the French school, and elevated the brain, as the seat of the soul and focal point of psychiatry, to the academic forums held in our country. Both friend and professor to Giné y Partagás; Mata taught him his positivist doctrines and invited him to stay in his house in Madrid when the young doctor visited the capital.

Another figure, José Rodríguez Villargoitia, was not hired by the new asylums in Zaragoza or Leganés (Madrid) due to a series of obstacles and misunderstandings, but he kept statistics and performed autopsies for free. His book was titled *De los medios de mejorar la suerte de los enajenados* (How to improve the lot of the insane).

Antonio Pujadas y Mayans (1811-1881), the ill-fated founder of the Asylum of San Baudilio de Llobregat, was trained in leading European institutions and had studied under Esquirol. He launched the first psychiatric journal in Spain: *La Razón de la Sinrazón*. He was a poor manager, however, and committed suicide after finding himself unable to raise funds for his asylum. The journals that followed *La Razón de la Sinrazón* were mainly asylum newsletters until the turn of the century. By that time, neurology could be glimpsed in content and journal names alike: *Archivos de Terapéutica de las Enfermedades Nerviosas y Mentales*, Barcelona, 1903-1911; *Archivos Españoles de Neurología, Psiquiatría y Fisioterapia*, Madrid, 1910-1911, *Anales de Psiquiatría y Neurología*, Zaragoza, 1912-1913; and *Anales de la Sociedad de Psiquiatría y Neurología*, Barcelona, 1916-1919.

Other pivotal figures of this epoch include the Valencian alienist Peset y Vidal (1821-1885), and Emilio Pi y Molist (1824-1892), Cervantes scholar and founder of Institut Mental de la Santa Creu in Barcelona. Following López Piñero's chronology,[6] the third phase in the history of psychiatry, which included the Restoration, was dominated by José María Esquerdo Zaragoza (1842-1922) and our protagonist, Juan Giné y Partagás (1836-1902). Esquerdo, born in Valencia, was a student of Mata's and worked with the mentally ill in Madrid's Hospital General. He left behind little in the way of published works, but he founded a private asylum in Carabanchel Alto that was a model institution, and even boasted a court for playing Basque pelota.

Spanish neurology was then dominated by two names: Luis Simarro (1851-1921) and Barraquer Roviralta (1855-1928). Luis Simarro was an important figure in the national movement for intellectual renewal spearheaded by philosopher and educator Giner de los Ríos and catalysed by Spain's loss of its last colonial possessions in 1898. He studied under Charcot and with Ranvier, who taught

him the staining techniques that Simarro would employ in his modest private laboratory located in Calle General Oráa in Madrid. It was here that he demonstrated Golgi's silver chromate stain to a young and eager histologist named Ramón y Cajal. A liberal firebrand, Simarro rose to become a masonic Grand Master. While his own publications were scarce, he urged many young students to take part in the great scientific adventure that was sweeping across Europe. Nicknamed *Incitator Hispaniae* by Laín Entralgo, Simarro also contributed to the training of such outstanding doctors as Nicolás Achúcarro. The Madrid School of Neurology had now been formed.[7]

In Barcelona's Hospital de la Santa Creu, Barraquer Roviralta, who was influenced by Charcot and especially by Duchenne, founded a department he called the Electrotherapeutic Dispensary. It was later named the Neurology and Electrotherapy Department, and subsequently, the Neurology Department. A skilled clinical observer and semiologist, he also published volumes of work, and his influence was felt all across Spain. In 1949, his son Barraquer Ferré would be one of the founders of the Spanish Society of Neurology.[8]

Asylums

This section contains an overview of the asylum policies in Spain and other countries. While asylums were frequently criticised, they did provide a stable environment for advancing psychiatry in the last two centuries, and it was in asylums that Giné completed his research.

As more modern practices were implemented, mental patients were no longer regarded as possessed, but they were still seen as degenerate antisocial individuals, and even criminals, who had to be locked up for the well-being of society. Under the Ancien Régime, the mentally ill were kept with the paupers and vagabonds referred by general hospitals. Asylums played a defensive and repressive role that the French Revolution attempted to suppress with its ideals of *égalité*. At the time of the Revolution, asylums were halfway along the spectrum between hospitals and prisons.[9] Parissot's account of the women in La Salpêtrière is shocking: "chained up, sometimes completely naked, in narrow, almost subterranean rooms more terrible than dungeons; their feet were often bitten by rats".[2(p118)] Pinel's actions at Bicêtre and La Salpêtrière led Giné to refer to him as "the great liberator, the Lincoln of the asylums"; at the same time, many other European alienists made efforts to strip off the chains and detect, classify, and treat purely psychiatric illnesses. In 1791, the French Revolution's Committee on Mendicity focused its efforts on the transition from a private charity system to a public welfare system. Zaragoza's general hospital, founded in 1429, was chosen as a model since it offered humane treatment to its patients, according to Dr Iberti's report for the Committee on Mendicity.[10] This exemplary public hospital was later destroyed and burnt by the French army during the first siege of Zaragoza in 1808.

François Leuret, the head of medicine at the Bicêtre Hospital, expressed his ideas as follows: "madness consists of an aberration in the faculties of understanding...it most frequently belongs to an order of phenomena that are completely alien to the general laws of medicine, namely passions and ideas". These aberrations could be transformed and cured through rigorous application of 'moral treatment', which the author mentions several times.[11(p1)] This treatment was authoritarian, and at times, cruel and coercive; for example, patients were almost systematically sprayed with cold water at the slightest sign of agitation.

New asylums were expected to serve as all of the following: 1) hospitals intended for the treatment of mental patients; 2) shelters for the incurably insane; 3) institutions of moral and physical education; 4) primary schools for the arts and sciences; 5) agricultural-horticultural establishments; and 6) internment centres for safety and prevention reasons.[9] French ideas arrived late in Spain, and furthermore, the *nouveautés* from the other side of the border were considered revolutionary, and therefore suspicious. The possibilities of public training in medicine were practically non-existent. The short liberal interludes in the first half of the 19th century (1819, 1824, 1849) resulted in the proclamation of progressive laws, and asylums were planned all across the country, but they were never completed. The scanty amount of public money drew neuropsychologists' attention to the private institutions that were flourishing in Barcelona, "the city of the asylums". Examples include La Torre Lunática (Lloret de Mar, 1844), a model institution with capacity for only ten patients; San Baudilio de Llobregat (1854), a former convent able to house 378 men and 247 women; and Nueva Belén in Barcelona (1857), which provided Giné with a stable institution in which to practise psychiatry and create a school. Psychiatry was now a reality in our country.

Juan Giné y Partagás (1836-1903)

Juan Giné y Partagás (Figure 1) was born on 18 November 1836 in Plá de Cabra (Tarragona); however, such authors as Rafael Sancho de Sanromán and Álvarez

Figure 1. Juan Giné y Partagás (1836-1903)

Sierra claim that he was born in Barcelona.[12,13] Both his father and his grandfather had been rural doctors in Cabra del Camp (Tarragona). His early years, in the wake of the death of Ferdinand VII (1833), were marked by the Catalan Renaissance or *Renaixença*; Compte's *Course in Positive Philosophy* had been printed in 1834, and Spain's first workers' union, the Society of Cotton Weavers, was formed in Barcelona in 1840. Circumstances therefore placed Catalonia at the forefront of progress.

Giné earned his degree in Barcelona in 1858. His extraordinary work ethic and brilliance pushed him to specialise in multiple areas of medicine, including hygiene, hydrotherapy, rural medicine, pharmacology, dermatology, ophthalmology, anatomy, anatomical pathology, psychiatry, and surgery; he was named chair of clinical surgery at the University of Barcelona in 1871. His earliest experience practising medicine was when he worked as a rural doctor in Vila-rodona. This experience would spark his interest in rural hygiene with applications to social medicine, and in hydrotherapy; his findings are described in texts he wrote while on horseback (*Tratado de Higiene rural*, *Memoria sobre las aguas minerales de Figuerola*.). He travelled to Madrid to present his doctoral thesis ("Can authentic examples of races and primitive types still be found?"), and he also contacted one of his professors, Pedro Mata, about contributing to Mata's journal *Pabellón Médico*. Giné returned to Barcelona, where he dedicated his time to teaching anatomy classes, writing to Pi y Molist among other scholars, and eventually working as a consultant for the Nueva Belén asylum. This activity would determine his fate. At this decisive time in his education, he wrote *De la necesidad lógica de ampliar los conocimientos anatómicos* (Of the logical need for more extensive anatomical knowledge), a call for experimental science that clashed with the lack of innovation displayed by his colleagues in Barcelona. In 1866, Giné was appointed chair of Anatomy, later Anatomical Pathology; in 1871, he became chair of Clinical Surgery.

One of his sources of pride was his unvarying support for positivism. This philosophy pushed him to 'prune back' psychiatric science and stand by the radical statement that insanity had an organic substrate; regardless of how small the brain lesion might be, "mental derangement is always a manifestation of a pathological process in the brain".[14(p284)] After Isabella II was deposed, Giné uttered these eloquent words that reveal so much about this personality and mindset:

> Speak tirelessly of the microscope...throw open the laboratory doors. Toil on without rest; this is what we must do, this is the task of every citizen of Spain in his respective sphere. Only in this way will we prove ourselves worthy of the freedom we have just gained.[15(p63-64)]

In 1868, working in partnership with Bartolomé Robert, he produced the first Spanish translation of *Die Cellularpathologie*, the classic textbook of anatomical pathology that Virchow had first published ten years before.

Nueva Belén asylum

In December 1873, already a department chair, he was named the director of Nueva Belén asylum (the institution, with its more than 300 beds, had been moved to San Gervasio de Cassolas, now part of Barcelona). He would also have a journal, *La independencia médica*, in which to publish his findings. Psychiatrists seeking training flocked to this centre, which was quickly becoming La Salpêtrière of Barcelona. Giné's interest in phrenopathy developed in this context. Nueva Belén contended with Esquerdo's asylum in Madrid (both were considered the most outstanding representatives of the 'generation of 1871',

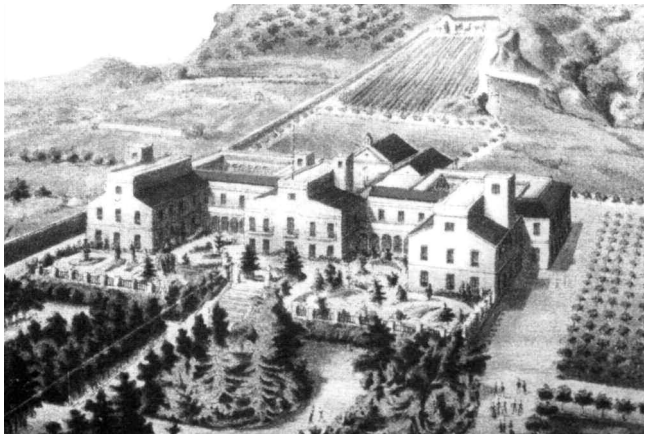


Figure 2. Nueva Belén asylum (1874)

marked by its progressive liberal ideology). Nueva Belén would also face off against Barcelona's Hospital de la Santa Creu and its obsolete methods ('theological methods', in Giné's ironic words). Giné would become the leading figure of 19th-century Spanish psychiatry. He founded *Revista Frenopática Barcelonesa* (1881-1885), the first important neuropsychiatric journal to be published in Spain in his century. His pioneering studies reached their zenith in 1876, when he published *Tratado de Frenopatología*, the first great neuropsychiatric textbook published in our country.

From his base at the renovated asylum, and with support from his student Arturo Galcerán, another great psychiatrist who would take over for Pujadas as the director of the San Baudilio asylum, Giné would organise the first Spanish Symposium on Phrenopathy in 1883. This event was the first psychiatric congress ever held in Spain, predating the major medical congress held in Barcelona in 1888 that coincided with the World Fair. Giné's trailblazing efforts in psychiatry –and also in neurology, as we will see later– were unstoppable. He was appointed dean of the faculty of medicine and he applied his knowledge to the sphere of legal medicine (he defended Verdaguer when the Church had a vested interest in having this priest and poet declared insane). However, Giné suffered an attack of apoplexy in 1893 that would leave him disabled for the remaining ten years of his life.

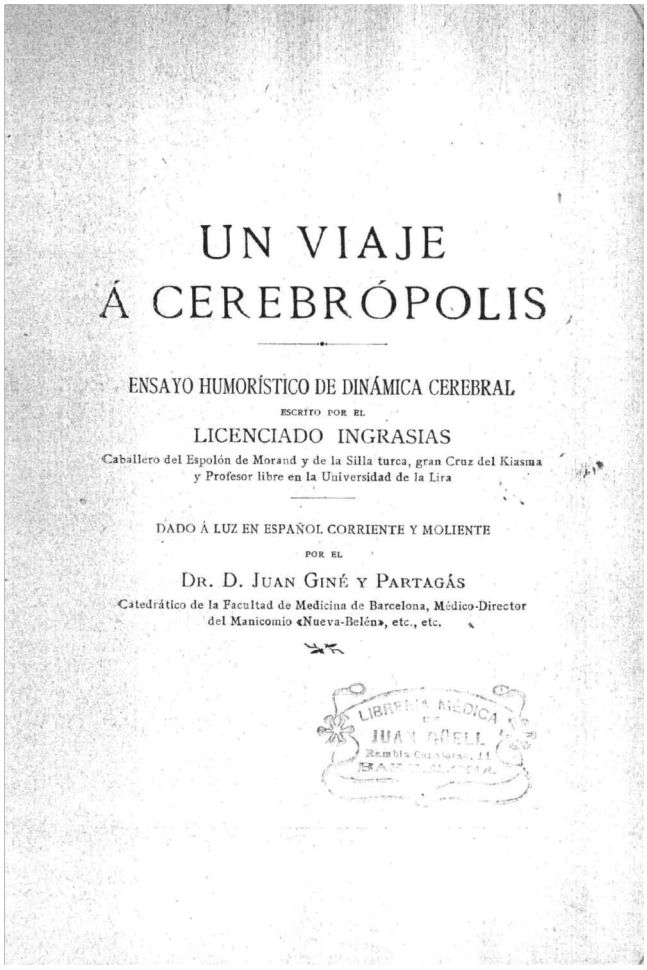
The leading institution was the asylum at Hospital de la Santa Creu, the only asylum in the city of Barcelona at the time. Directed by the Church, and marked by a resistance to progress that stymied the efforts of the psychiatrist Pi y Molist, the hospital itself was described by Giné as "a grim and terrible place". Thus it remained until the Spanish transition to democracy; it finally closed its doors in 1992. However, lack of public investment in these institutions, and the burgeoning economic and cultural climate in the city in the middle part of the 19th century, would result in the creation of several new asylums. In the town of Gracia (now part of Barcelona), the company Más y Compañía founded Nueva Belén asylum (Figure 2), modelled after the rebuilt Bethlem Royal Hospital in London. In 1874, Nueva Belén was moved to San Gervasio, where a new hospital was created; Giné would act as both director and part-owner. He formed a school, with followers including Galcerán, Martí Juliá, and Rodríguez Morini. Working ceaselessly, he pursued his vocation as a professor of psychiatry, complemented by studies of 'phrenopathy'.

We will now dedicate just a few lines to his students, beginning with his favourite and the best known of his group: Arturo Galcerán (1850-1919). Galcerán regarded himself as a mentalist and neurologist, and he founded the Barcelona Society of Psychiatry and Neurology. He also launched two journals, *Boletín del Manicomio de San Baudilio*, and *Archivos de Terapéutica de las Enfermedades Nerviosas y Mentales*. He wrote a wealth of monographs, including such histological texts as his 1889 *Ensayo de clasificación anatomopatológicas de las vesanias* (Essay on the anatomical pathology classifications of dementias). A radical organicist, he was a model practitioner of neuropsychiatry.

We should also mention Domènec Martí y Juliá (1861-1917), who founded the Instituto Frenopático de Les Corts in 1863. He prohibited the term "madhouse" because of the stigma attached, and he was a leader in the Catalan nationalist movement. He remained the dedicated and strict director of the Instituto Frenopático until it was absorbed by the modern-day Institut Dexeus. Lastly, we find Antonio Rodríguez Morini of León (1863-1937), another director of the San Baudilio asylum; he founded the *Revista Frenopática Española*, and was also the father of Belarmino Rodríguez Arias, the celebrated neurologist.[15] It should be noted that Charcot's international prestige helped open doors for the specialty of neurology; however, that discipline itself was more likely to be mentioned in journal or article titles than to actually be featured in the studies themselves.

Cerebrópolis

Giné's ample anatomical and histological knowledge, which served him so well in his efforts to master the different specialties of medicine that he practised



UN VIAJE
Á CEREBRÓPOLIS

ENSAYO HUMORÍSTICO DE DINÁMICA CEREBRAL

ESCRITO POR EL

LICENCIADO INGRASIAS

Caballero del Espolón de Morand y de la Silla turca, gran Cruz del Kiasma y Profesor libre en la Universidad de la Lira

DADO Á LUZ EN ESPAÑOL CORRIENTE Y MOLIENTE

POR EL

DR. D. JUAN GINÉ Y PARTAGÁS

Catedrático de la Facultad de Medicina de Barcelona, Médico-Director del Manicomio «Nueva-Belén», etc., etc.

Figure 3. *Un viaje a Cerebrópolis* (1884)

throughout his life, plus the reverence with which the brain was viewed in the 19th century, spurred him to publish a didactic book on the complexities of cerebral anatomy and physiology. In 1884, he published a humorous essay on cerebral dynamics titled *Un viaje a Cerebrópolis. Ensayo humorístico de dinámica cerebral* (Figure 3). The essay offers an easy-to-read examination of the fundamental and intimate relationships that exist between mental faculties and different centres of the brain. In doing so, it narrates of an imaginary journey of sensations through the structure of the brain. Its pathways channel the senses, intelligence, free choice, conscience, sleep, and many other faculties. This entertaining description provides further proof of Giné's organicist view of psychiatry.[16] It also bears some similarities to later works, including Cajal's *Doctor Bacteria* and Asimov's *Fantastic Voyage*. The emergence of neurology, alongside the peculiar and fleeting phrenology movement, had perpetuated Erb's brain-mythology, and Giné was one of its staunchest proponents.

Giné founded *La Independencia Médica* in 1869; this journal published a variety of medical findings and opinion pieces in its triannual issues, and continued the work of *El Compilador Médico* (1865). He directed the journal until his death.

An even more significant journal was *Revista Frenopática Barcelonesa* (1881), which took over for *Razón de la Sinrazón* but was only published for five years. Here, Giné described his experiences in Nueva Belén alongside his phrenopathy theories (for example, in the column 'Scientific findings from the Nueva Belén asylum'). The journal included a variety of writings, from poems dedicated to Pinel or to Giné himself, to 'pure' neurological studies of Friedreich ataxia, treatment for chorea, crossed hemianaesthesia with brainstem lesions, and more. It also helped his students gain writing experience.

Giné's phrenopathy treatise

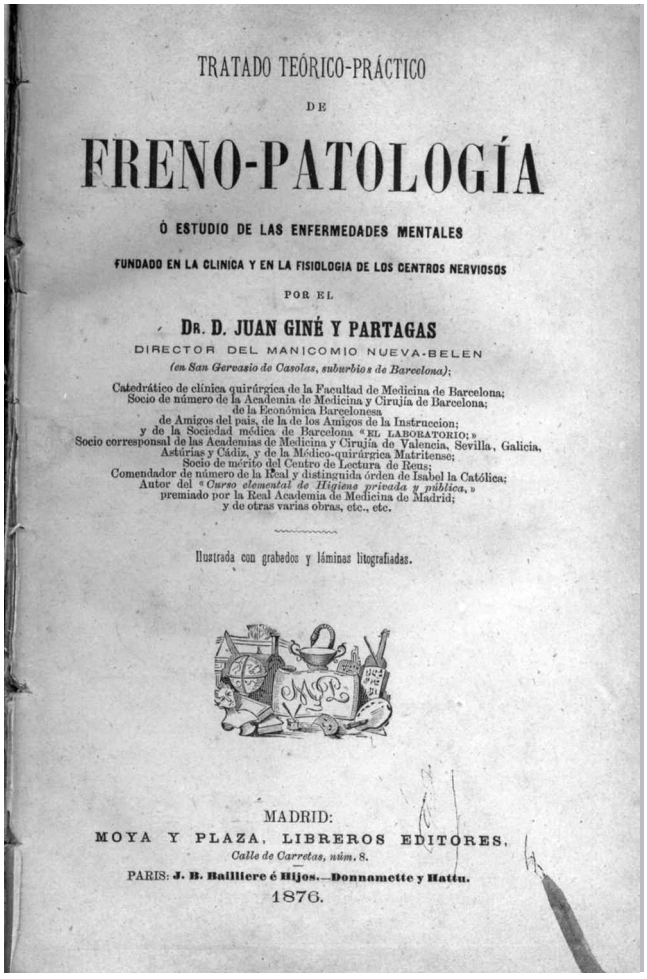
The source that most clearly reveals Giné's role as a forerunner in neurology and a founding figure in psychiatry is in fact his magnum opus. Its title might be rendered as 'Theoretical and practical treatise on phrenopathy or the study of mental illness, based on clinical features and the physiology of nerve centres' (Figure 4), and may well be considered Spain's first textbook of (neuro)psychiatry.

An excerpt from his introduction appears below:

> unfortunately, this will be the first book of its type in the Spanish literature; except for Pinel's *Treatise on Insanity,* translated into our language in 1804 by Doctor Guarniero, and *Mental maladies*, a treatise on insanity written by Esquirol and translated in 1858 by Doctor Mata, as well as some very useful aphorisms penned by my esteemed Doctor Pi y Molist, we have nothing in this crucial area of clinical medicine.[3(p1)]

Published in Madrid in 1876, this 576-page book features a modern structure that presents the specialty using a few preliminary chapters followed by two parts: the first presents general phrenopathy (chapters IV to XX), and the second, specialised phrenopathy, with analyses of different entities (mania, melancholy, etc., chapters XXI to XXX).

In the first chapter ("Relationship between social progress and advances in phrenopathy"), Giné expresses his enthusiasm for the gains of revolution: "...the revolutionary turmoil that characterised the last decade of the previous



TRATADO TEÓRICO-PRÁCTICO

DE

FRENO-PATOLOGÍA

Ó ESTUDIO DE LAS ENFERMEDADES MENTALES

FUNDADO EN LA CLINICA Y EN LA FISIOLOGIA DE LOS CENTROS NERVIOSOS

POR EL

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de la Económica Barcelonesa,
de Amigos del país, de la de los Amigos de la Instruccion;
y de la Sociedad médica de Barcelona «EL LABORATORIO;»
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Socio de mérito del Centro de Lectura de Reus;
Comendador de número de la Real y distinguida órden de Isabel la Católica;
Autor del «*Curso elemental de Higiene privada y pública,*»
premiado por la Real Academia de Medicina de Madrid;
y de otras varias obras, etc., etc.

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Figure 4. *Tratado de frenopatología*

century was necessary in order for common sense to register the idea that the madman is an invalid who displays nothing extraordinary or supernatural". He also pays homage to his hero Philippe Pinel.

His second chapter presents a brief overview of the history of mental illness. Giné takes the time to flesh out one of his favourite topics: the history of insane asylums, and the roles of Pinel and Esquirol as the founding fathers of psychiatry. Giné's treatise uses the name proposed by Gislain to indicate the branch of pathology that investigates mental illness: phrenopathy, with patients referred to as 'phrenopaths'. The phrenology of Gall and Spurzheim, or the study of cerebral localisations, was declining in the rest of Europe; however, in Spain, particularly Catalonia, it lingered on in these decades thanks to the professorial efforts of Mariano Cubí. Giné, however, criticised and rejected phrenology, at least in its most commonly accepted version –"we are not counted as proponents of phrenology, for we do not believe that psychic aptitudes are to be found in specific regions or organs of the brain"– although he does use some related terms and ideas.

Throughout the book, he maintains that all mental illnesses have an underlying organic cause, and that it is necessary to understand the anatomy and physiology of the nervous system: "Practising phrenopathy requires a very meticulous cultivation of the knowledge related to the structure and function of the nerve centres". Treading the path traced by Emile Poincaré (a largely forgotten histologist and father of mathematician Henri Poincaré), he presents multiple cytological and histological frameworks –still rooted in reticular theory– for the different nuclei and connections at each of the different levels from the spinal cord to the brain. He completes this study with an updated overview of nerve physiology throughout the entire nervous system. Systematically and working level by level, but still employing generous amounts of speculation, he analysed excitability (especially the capacity of localised nervous tissue to respond with epileptic seizures or pain); transmission (in white matter and grey matter nerve fibres); and nerve irradiation in sensitivity or motricity.

Regarding the brain's functions, he states that the following must be regarded as irrefutable facts:

1. The brain is the seat of the mental faculties.
2. Development of the cerebral hemispheres is proportional to the individual's intellectual capacity.
3. This development is understood to refer to volume, surface area, appropriate density, and vascularisation present in the cerebral grey matter.
4. The white matter of the cerebral hemispheres conducts the efferent and afferent signals in the cerebral gyri.
5. The grey matter is the only type of matter related to psychological aptitudes.
6. Any permanent psychological morbid alterations correspond to anatomical lesions at various depths in the brain matter.[3(p90)]

Giné defends Broca's pivotal discovery, in 1861, of the localisation of language, but he warns that the debate regarding hemispheric dominance ('the left-handed brain') was still open. He struggled to explain the functions passed down from metaphysics, such as reason or free will, within the framework of the general theory of brain localisations.[3]

His organicist viewpoint required him to describe the anatomical pathology of cerebral disorders (infectious,

vascular, etc.), and of mental disorders as well. Here he would be hampered by the lack of data for such entities as psychosis and hysteria, which he tried to link to cerebral hyperaemia and other conditions "that cannot be detected in cadavers, like flushing".[3(p380)]

Giné's categories for mental illnesses are clearly inspired by, yet different from, the schemes offered by Pinel and Esquirol: 1) melancholy or phrenalgia; 2) ecstasy or phrenoplexy; 3) mania or hyperphrenia; 4) fatuousness or paraphrenia; 5) delirium or idiophrenia; 6) dementia or aphrenia.

In the section on prognosis, he cites a cure rate of 45% at Nueva Belén. However,

> if we exclude epileptics, paralytics, patients with long histories of dementia, idiots, and inveterate and improperly treated cases, the cure rate rises to 84, 87, or even 93 percent. What other nosological group can give us more hopeful results?[3(p520)]

Giné establishes psychiatry as an independent discipline with its own content and an equal rank with respect to other fields of medicine. He dedicates a chapter to the matter of standardising the umbrella term of 'psychiatry', and specifically locates mental illnesses in the "anatomy of the texture of the nervous system".

The more purely neurological entities on his list, such as paralysis due to pellagra or alcoholism, general paresis/general paralysis of the insane, epilepsy, and hysteria, are all precisely described in accordance with the French school's teachings. These chapters are a testimony to his work in proto-neurology.

A large part of the treatise is dedicated to what he always considered to be his life's work: the conception, creation, and development of the Nueva Belén asylum. In those times, asylums, in conjunction with the improvements introduced by his French predecessors, were considered "the most powerful tools for curing insanity"(Esquirol). His own asylum was intended as a model of humane treatment of mental patients that would put an end to the poor reputation surrounding such institutions. He illustrated this remark with a disturbing example.

> Bethlem Hospital (from which Nueva Belén takes its name), built in London in 1547, deserved to be called a prison for the insane, for while its lunatics were kept apart from criminals, they were chained within their cells; in fact, it pains me to point out that they provided amusement to curious onlookers, and their cruel keepers charged for administering the lashes that would provoke the fury of the inmates and make the spectacle more entertaining.[3(p318)]

In Spain, the situation was grim:

> Despite having been the founders of that saintly institution [referring to Fray Gilberto Jofré and the Casa de Orates, a 15th century asylum in Valencia], our position is so markedly backward that we should almost feel relief at having contributed a single glorious page to this history of philanthropy.[3(p319)]

His exhaustive description of his institution's architectural features, which were inspired in part by the refurbishment of Hospital de la Santa Creu undertaken by his good friend, the eminent psychiatrist Pi y Molist, is an important source of minor topics in the history of these institutions. He finishes the chapter by describing the regulations of the asylum and by listing nosocomial complications "of the brain and spinal cord, other than insanity". These included cerebral congestion and haemorrhage, 'intercurrent interstitial encephalitis of the insane' (brain abscess?), 'chronic interstitial encephalitis' (of tuberculous origin?), myelitis, and so on.

The treatise is illustrated with numerous blueprints of asylums, as well as with sketches of the faces of eight patients. Giné closes the treatise with two chapters brimming with neurological content; the first, on general paralysis of the insane, includes illustrations of skin lesions in syphilis; the second chapter addresses 'idiocy'.

Giné, a founding father of psychiatry whose work also set the stage for neurology, was quite justly criticised for two reasons: firstly, lack of focus, since while writing his book at Nueva Belén, he was also teaching and practising surgery and dermatology at the Faculty of Medicine, or else researching dermatology. Secondly, his psychiatric research was rather shallow, with just one brief statistical analysis, and his experience in both psychiatry and neurology was limited to the institutional context.

We end this section by underlining Giné's political leanings; he followed in the Republican and anti-ecclesiastical footsteps of his famous contemporaries, including Pedro Mata, Esquerdo, and Rodríguez Méndez. He also spearheaded the Progressive Democratic Party; however, as president of the Free Aethenium of Catalonia, he would state that "any moderately sensible Spaniard will avert his gaze from politics".[15(p308)] Giné criticised the politicians in Madrid for their lack of concern for public institutions. When his protests were met with equal unconcern, Giné began gradually withdrawing from politics. He also remained unfazed by the difficulties brewing between Catalonia and the rest of Spain, and was always a staunch supporter of national unity.

> …furthermore, what does topography signify?" Spain is a nation that should manifest a single consensus and a common aspiration. We must eschew regional preferences even when they seem to be justified by current or historical situations. In this way, as between considerate brothers, love will reign between the more intelligent and industrious and the less powerful and vigorous. Let us love all Spaniards as brothers, as essential members of a united family. Spain is one...*¡Viva España!* Any rent or tear in the national fabric is likely to give rise to a fruitless debate that will last a lifetime.[15(p308)]

That being said, he supported making Barcelona, rather than Madrid, the capital of Spain.

In 1893, while Giné was still active as the Dean of the Faculty of Medicine, he suffered a stroke that left him disabled. He died of bronchopneumonia on 27 February 1903. He was interred in a niche belonging to one of his wife's aunts, but his remains have since been moved and forgotten. His belongings and his personal papers also seem to have been lost, due to the apparent lack of interest displayed by his son and heir Artur Giné. In 1942, following a long period of decline, Nueva Belén asylum closed its doors and its clinical files disappeared. The building was later used as a girls' reformatory, and finally demolished in 1990 so that La Caixa bank could build a new museum.

Giné y Partagás, described by Laín Entralgo as Spain's first psychiatrist, modernised Spanish psychiatry after a long period marked by little to no scientific progress. An egalitarian with a social conscience, he used data gathered by the public health and social medicine movements to promote the emancipation of the working class. What he advocated was not charity, but rather investment in large-scale government-run social projects in line with the proposals of the French Revolution that had made such an impression on him in his youth. In his approach to psychiatry, a discipline that saw the convergence of a wide variety of often opposing theories, he backed the organicist current that would subsequently produce so many breakthroughs, and instilled its methods in the large group of students who flocked to his banner. Neurologists should also recognise the influence and contributions of Giné y Partagás.

Conflicts of Interest

The authors have no conflicts of interest to declare.

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References

1. Postel J. Genèse de la psychiatrie. Les premiers écrits de Philippe Pinel. París: Le Sycomore; 1981.
2 Peraza de Ayala T. La psiquiatría española en el siglo XIX. Madrid: CSIC; 1947.
3. Giné y Partagás J. Tratado teórico-práctico de freno-patología. Madrid: Moya y Plaza; 1876.
4. Pinel P. Tratado médico-filosófico de la enajenación del alma o manía. Madrid: Imprenta real; 1804.
5. Bermejo F, García-Albea E, Acarín N, Chacón JR (editors). La neurología española al final del milenio. Historia y porvenir. Barcelona: Uriach; 1999.
6. López Piñero JM, García Ballester L, Faus Sevilla P. Medicina y sociedad en la España del siglo XIX. Madrid: Sociedad de Estudios y Publicaciones; 1964.
7. García-Albea E. Historia y humanidades en neurología. Majadahonda (Madrid): Ergón Creación; 2007.
8. Barraquer Bordas L. The history of Spanish clinical neurology in Barcelona 1882-1949: with special reference to its pioneer, Dr Lluis Barraquer Roviralta. J Hist Neurosci. 1993;2:203-15.
9. Huertas R. Del manicomio a la salud mental: para una historia de la psiquiatría pública. Madrid: Fondo de Investigaciones Sanitarias de la Seguridad Social; 1992.
10. Espinosa J. Un testimonio de la influencia de la psiquiatría española de la Ilustración en la obra de Pinel: el informe de José Iberti acerca de la asistencia en el manicomio de Zaragoza (1791). Asclepio. 1964;16:179-82.
11. Leuret F. Du traitement moral de la folie. Paris: Baillière; 1840.
12. Sancho de San Román R. La obra psiquiátrica de Giné y Partagás. Salamanca: Seminario Historia de la Medicina; 1960.
13. Álvarez Sierra J. Diccionario de autoridades médicas. Madrid: Editora Nacional; 1963.
14. González Casanova JC. Aportaciones al estudio de la obra psiquiátrica del Dr. Juan Giné y Partagás. In: I Congrés Internacional D'història de la Medicina Catalana; 1970 jun 1-7; Barcelona: Ed. Scienctia; p.283.
15. Ausín Hervella JL. Dr Giné i Partagàs (1836-1903): en homenatge. Barcelona: Col·legi Oficial de Metges de Barcelona; 2003.
16. Giné y Partagás J. Un viaje a Cerebrópolis: ensayo humorístico de dinámica cerebral. Barcelona: Juan Güell; 1906.