

Louis Casamajor (1881-1962), an influential neurologist from New York

M. Marco Igual

Neurologist. Hospital Parc Taulí, Sabadell, Barcelona, Spain

ABSTRACT

For more than four decades, Louis Casamajor (1881-1962) was one of the most active specialists in neurology and psychiatry in New York City and the United States. He was born in Brooklyn to a family of French-Cuban origin, and worked throughout his career in connection with Columbia University and the Neurological Institute of New York. Casamajor, a neurologist and psychiatrist who trained in Europe as a neuropathologist under Otto Marburg and Alois Alzheimer, was one of the founders of American paediatric neurology; despite this background, he has largely been overlooked in history. In the United States, he was a pioneer in the description of manganese poisoning, compressive myelopathy of vertebral origin, and Guillain-Barré syndrome. He also introduced the Wassermann test and was one of the first supporters of psychoanalysis. Casamajor had a special interest in the development of electroencephalography and pneumoencephalography in children. He was sociable and a prolific writer, a member of many societies, and one of the founders and directors of the American Board of Psychiatry and Neurology.

KEYWORDS

Columbia University, Louis Casamajor, Neurological Institute of New York, neurologist, neuropathologist, paediatric neurologist, psychiatrist

A nice, sweet, kindly old giant of a man who could hold an infant in the palm of one hand. His name was Louis Casamajor and among other things, he had a falsetto voice and his famous line would be – he would hold a baby in one hand and look at it and say, “This is a silly baby.” He was always right. He could tell by looking and watching a child’s behavior.

Lewis P. Rowland¹

Introduction

Louis Casamajor (1881-1962) was an unusual character in neurology and psychology in New York City and the United States during the first half of the 20th century. Through his dedication to nervous and mental disorders, he became a clinical neurologist, psychiatrist, and neuropathologist, and he even explored psychoanalysis.

He was also one of the founders of American paediatric neurology.

Casamajor was born into a family of French-Cuban origin, settled in Brooklyn; like many of his contemporary colleagues, he combined multiple jobs at the same time, but was especially linked to Columbia University, working as a professor at the College of Physicians and Surgeons and a specialist at its neurological clinic, the Vanderbilt Clinic; he also had close ties with the Neurological Institute of New York, becoming one of its first members.

A child of his time, with encyclopaedic general knowledge, he was outgoing, had excellent speaking skills, and belonged to several societies and neurological and psychiatric committees, in which he frequently

participated as an official speaker and master of ceremonies.

However, his work has received little attention, in comparison with other members of his generation, and it is therefore essential to acknowledge his place in the history of American neurology and psychiatry.

This study is based on an extensive literature review on the figure of Louis Casamajor and his environment, selecting the most relevant information to describe his professional activity and work in medical associations, as well as his scientific career. Therefore, particular emphasis is placed on publications from the institutions he belonged to, his scientific articles, and the texts written on him, even from news media.

Development

Ancestors: from the Pyrenees to Brooklyn, stopping in the Caribbean

Louis Casamajor's great-grandfather, Pierre-Prudent de Casamajor or Prudencio Casamayor (1763-1842), was born in Sauveterre-de-Béarn, in the French western Pyrenees. He travelled to Santo Domingo in 1785, and in 1797 he emigrated to Santiago de Cuba to escape from the revolts that preceded the birth of Haiti, and introduced the cultivation of coffee to eastern Cuba. Prudencio acquired a large amount of apparently barren land in Sierra Maestra, close to Santiago, and leased plots to his countrymen to create coffee plantations, where thousands of slaves worked. He was the leader of the region's French Creole community, which comprised almost 20 000 people. In Santiago, he worked in banking, maritime trade with the United States, slave trading,² and copper mining. He had several children with the quadrooness (daughter of a white man and a mulatto woman) Madeleine Brun; one of their sons was Henri Casamayor (1804-1857), Louis's grandfather, who married Felicie de Saint-Félix Doutre, a woman of Creole descent born in New Orleans.³⁻⁵

Paul Casamajor (1831-1887), Louis's father, was sent to the United States in 1845, where he studied at Harvard Scientific School; he later moved to France to train at the École Centrale Paris, where he graduated with a degree in chemical engineering in 1854. After completing his studies, he returned to the United States and, in 1867, began work as a chemist at the Havemeyer & Elder sugar refinery in Brooklyn. He was a promoter and secretary of the American Chemical Society, as well as president

of the New York Chemical Society. Paul Casamajor married a French woman from Normandy, Louise Jane Holberton (1847-1931), and they had ten children, all born in Brooklyn. After his death from a heart attack, his wife Louise invested her savings in shares of the sugar company and took care of the family, which was very integrated in society in Brooklyn, a town that did not become part of New York City until 1898. Of her children, Louis was a doctor, Mary (1878-1970) was a librarian at the National Health Library in New York City, Martha (1884-1974) was a teacher at a public school in New York City, and Robert (1885-1960) was a businessman in California.^{5,6}

First steps in his professional career

Louis Casamajor completed his secondary studies at the Adelphi Academy, a leading institution in Brooklyn.⁷ At Columbia University, Casamajor graduated first in pharmacy and later, in 1906, in medicine at the College of Physicians and Surgeons, colloquially known by the acronym "P&S"; he obtained his doctoral degree one year later.^{5,8,9}

In 1906-1907, he worked as an attending neurologist at the old City Hospital, originally named Penitentiary Hospital and located on Blackwell's Island, now known as Roosevelt Island. There, thanks to Smith Ely Jelliffe (1866-1945), a visiting neurologist at the New York City Hospital and his former professor of materia medica and instructor at the university's pharmacological laboratory, he developed an interest in neurology.⁸ Casamajor also worked as assistant physician at the Manhattan State Hospital on Ward's Island until August 1908.¹⁰

Casamajor in Europe

In the late 1900s, Louis Casamajor completed several fellowships in Germany and Austria. He probably travelled to Europe in 1908, soon after completing his internship, as the psychiatrist Clarence P. Oberndorf (1882-1954) reported having met a young American neurologist in Berlin that year, a student of Jelliffe who had recently graduated in medicine and surgery in New York; this was probably Casamajor.⁸ Oberndorf also reported in his history of psychoanalysis in the United States that Casamajor was the first person to openly praise the discipline, at a popular beer hall in Munich, where a small group of American students often met at night. In spring 1909, Casamajor returned to the United States, having received neuropathological training under Otto



Figure 1. Vanderbilt Clinic, Sloane Hospital for Women, and College of Physicians and Surgeons, 1915

Marburg (1875-1948) at the Neurological Institute of the University of Vienna, a town where he was thrilled by the work of Sigmund Freud (1856-1939), and especially by his research on hysteria. For Casamajor, Freud's work was the most important recent contribution to the field of neuropsychiatry.¹¹ Marburg, a Jew who fled Europe for the United States in 1938, was a professor at Columbia University's College of Physicians and Surgeons, and collaborated with his former student Louis Casamajor.¹²

Returning to Europe, Casamajor met Jelliffe at the 16th International Medical Congress, held in Budapest between 29 August and 2 September 1909,¹³ and later attended an advanced training course directed by Emil Kraepelin (1856-1926), held at the Psychiatric Clinic of the University of Munich in autumn 1909.⁸ Casamajor worked with Alois Alzheimer (1862-1915) at the centre's neuroanatomical laboratory, where the warm atmosphere fostered learning and research. The 20 seats available at the laboratory were always occupied by such

students as Nicolás Achúcarro (1880-1918), Gonzalo Rodríguez Lafora (1886-1971), Jelliffe, and Casamajor himself.^{14,15}

In 1908, during one of his visits to the Munich University Clinic, Jelliffe, commissioned by the American government, offered Alois Alzheimer the directorship of the new histological laboratory of the Government Hospital for the Insane in Washington, where his friend William Alanson White (1870-1937) worked as superintendent. Alzheimer declined the offer and recommended the young Nicolás Achúcarro, who accepted the role in September 1908. Although he returned to Madrid in 1910, being replaced by Lafora, Achúcarro visited Fordham University of New York in September 1912, where Jelliffe was a professor, to participate in a course on medical and nervous conditions and receive his degree of doctor honoris causa. Both in Munich and in the United States, Achúcarro also probably coincided with Louis Casamajor.¹⁶ The latter also knew Lafora,



Figure 2. Left to right, top row: Louis Casamajor⁹, Smith Ely Jelliffe, and Abraham Brill. Bottom row: Pearce Bailey, Charles Elsberg, and Frederick Tilney

managing his admission to the American Neurological Association (ANA) in January 1941, which became effective several months later. By that time, the Spanish neuropsychiatrist was exiled in Mexico.¹⁷

Louis Casamajor returned to Europe during the First World War. He travelled to France in May 1917 as captain of the medical unit sent from the New York Presbyterian Hospital, which joined the British army in Étreat (Normandy),¹⁸ where U.S. Army Base Hospital No. 2 was stationed; this hospital was administered by the British. The unit included 25 physicians and surgeons and 65 nurses affiliated with Presbyterian Hospital and Columbia University's College of Physicians and Surgeons.¹⁹ In May 1918, Casamajor was transferred to Base Hospital No. 18 of the First United States Army, located in Bazoilles-sur-Meuse (Vosges department), close to the frontline. He returned to New York in February 1919 aboard the *USS Finland*, with the rank of major.^{18,20}

Columbia University and the Neurological Institute of New York

The institution dates to 1754, with the foundation of the King's College, which after American independence changed its name to Columbia University, more in keeping with the new era. The College of Physicians and Surgeons was created in 1860, adding medicine to the disciplines taught at the university; in 1911, it merged with the Presbyterian Hospital, which was founded in 1868.^{21,22}

The Vanderbilt Clinic was founded in 1888, thanks to a donation from a family of Dutch origin, one of the wealthiest families in New York (Figure 1). It was dedicated to the outpatient care of nervous and mental diseases and was integrated into the department of neurology at Columbia University, which was subsequently directed by Moses Allen Starr (1854-1932) and Frederick Tilney (1875-1938), professors at the College of Physicians and Surgeons. Some of New

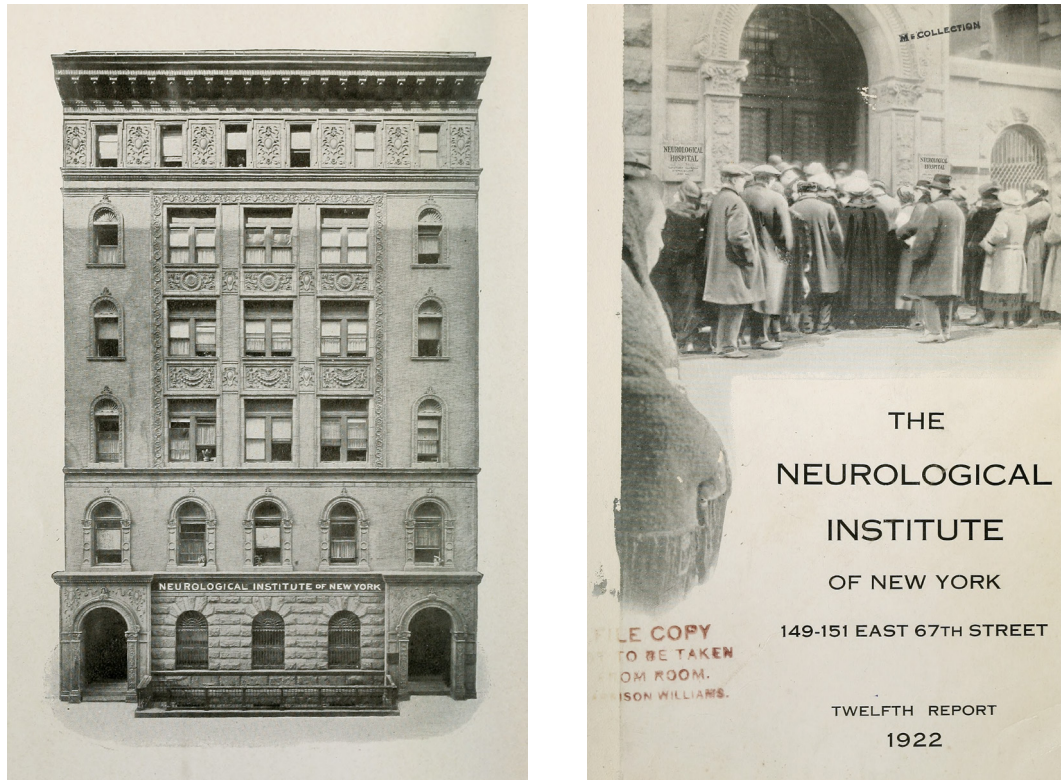


Figure 3. The old Neurological Institute headquarters, 1922.³²

York's greatest neurologists and psychiatrists of the day were trained there, including Frederick Peterson (1859-1938), Pearce Bailey (1865-1922), Joseph Collins (1866-1950), James Ramsay Hunt (1872-1937), Walter Timme (1874-1976), Abraham Brill (1874-1948), and Smith Ely Jelliffe (Figure 2). The clinic's lack of an inpatient ward promoted the foundation of the Neurological Institute, the first specialised institution in North America to be dedicated to this discipline, which would benefit patients and contribute to the training of specialists.^{21,23,24}

The Neurological Institute was founded in 1909 on the initiative of the neurologists Joseph Collins, Pearce Bailey, and Joseph Fraenkel (1867-1920), who soon left his position. Shortly after, Frederick Peterson, Charles Loomis Dana (1852-1935), and the neurosurgeon Charles Elsberg (1871-1948) also joined the clinic. The institution started to expand, and soon outgrew the old building on East 67th Street, but no resources were available to move to a new location (Figures 3 and 4).^{21,24}

During the First World War, Pearce Bailey directed the neurology and psychiatry division of the Office of the Surgeon General of the United States, and the Neurological Institute, together with Columbia University, organised training courses in neuropsychiatry and neurosurgery for medical officers, which were directed by Walter Timme and Charles Elsberg.^{21,24}

To facilitate the relationship between both institutions, Frederick Tilney, professor at Columbia University, joined the Institute's Medical Board in 1920, and Charles Elsberg joined the College of Physicians and Surgeons (Figure 2). The merger took place in 1925, and the new headquarters of the Neurological Institute was inaugurated in 1929 at West 168th Street and Fort Washington Avenue, within the New York-Presbyterian Hospital/Columbia University Medical Center complex, which had been located there since 1924 (Figure 5). In the new organisational structure, Tilney became director of neurology and Elsberg director of neurosurgery. We

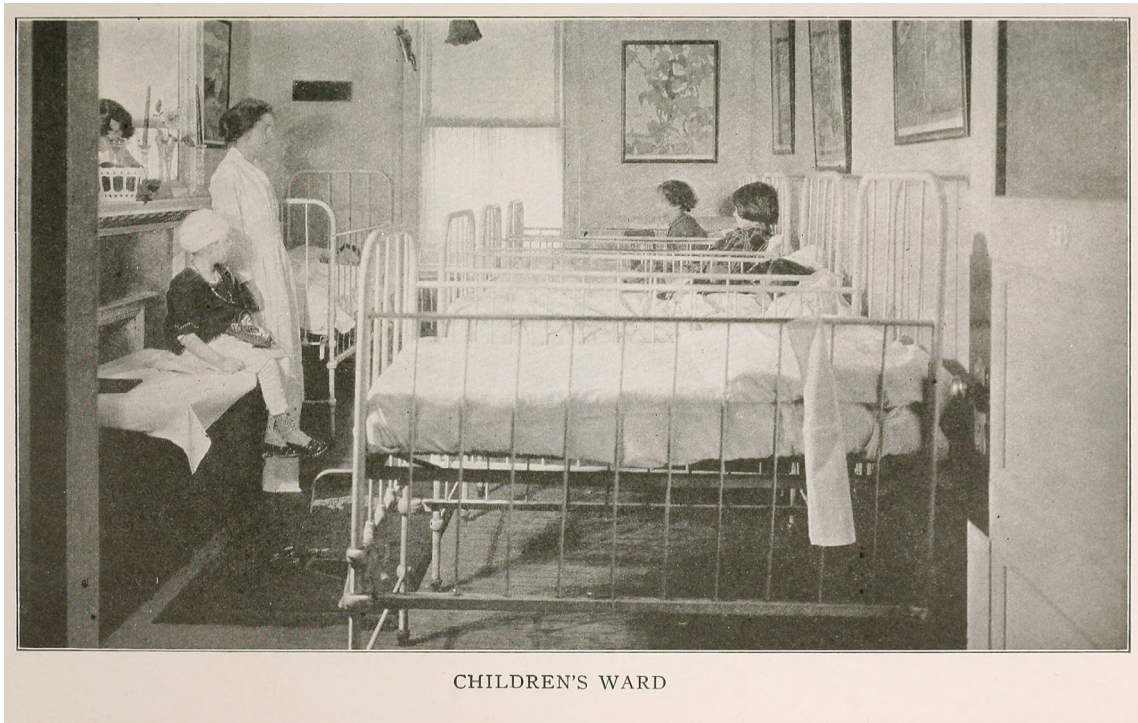


Figure 4. Children's room at the Neurological Institute, 1922.³²

may identify two different eras at the Neurological Institute: Dr Collins' hospital, during its first decade, and later Dr Tilney's hospital, until Tilney decided to leave the neurology directorship in 1935 due to severe illness. This was followed by a period of uncertainty, until the neurologist and neurosurgeon Tracy Putnam (1894-1975) was appointed director of the Institute in 1939. In 1948, he was replaced by Houston Merritt (1902-1979) in the neurology division and James Lawrence Pool (1906-2004) in the neurosurgery division, who would lead the institution to a cutting-edge position.²¹⁻²⁵

Other distinguished members of the Institute during Casamajor's time include James Ramsay Hunt, Robert Foster Kennedy (1884-1952), Henry Riley (1887-1966), Oliver Strong (1864-1951), Edwin Zabriskie (1874-1959), Bernard Sachs (1858-1944), and Israel Wechsler (1886-1962); the neurosurgeons Alfred Taylor (1869-1942), Byron Stookey (1887-1966), and Leo Davidoff (1898-1975); the neuroradiologists Cornelius Dyke

(1900-1943) and Ernest Wood (1914-1975); and David Kaplan (1876-1952) at the laboratory.²²

Louis Casamajor at the Neurological Institute and Columbia University

For most of Louis Casamajor's professional career, he was linked to the Neurological Institute of New York, where he worked as a neurologist, neuropathologist, and paediatric neurologist, and to Columbia University, where he was a professor at the College of Physicians and Surgeons and neurologist at the Vanderbilt Clinic. After his neuropathology training in Austria and Germany, he became one of the first members of the recently created Neurological Institute in 1909. Over the years, he also became an important figure in the growth and development of these institutions, where he played an important role until his retirement in 1951.⁹

By 1910, he already was chief of clinic at Dr Bailey's department and performed autopsies and



Figure 5. The new Neurological Institute headquarters, 1929 (Photo & Art Postal Card Co. 444 Broadway, N.Y. [Author's personal collection])

neuropathological studies. Furthermore, in 1913 he became head of neurology at the Vanderbilt Clinic, and an assistant neurologist at New York City Hospital. From that year, he is not listed on the organisational chart of the Neurological Institute for the rest of the decade.²⁷⁻²⁹

The 1914 Medical Directory of New York reports that he continued working at the Neurological Institute, Vanderbilt Clinic, and New York City Hospital, listed as neurologist, psychiatrist, and psychoanalyst.³⁰ In the 1924 directory, he was also listed as a neuropathologist, but not as a psychoanalyst.³¹

The annual reports of the Neurological Institute of the following decade mentioned that Casamajor was appointed in 1921 as director of the histological and

neurology laboratory, replacing James B. Gere (1872-1920), who died unexpectedly. He remained in this position in 1927. In 1929, after the inauguration of the new headquarters of the Neurological Institute, he was designated director of its ambulatory department, located at the premises of the Vanderbilt Clinic.³²

In the 1930s, with the Neurological Institute operating within the New York Presbyterian-Columbia University Medical Center, he worked as director of its outpatient dispensary and as co-director of child neurology, director of the neurology department at the Vanderbilt Clinic, and the only consulting neurologist at Sloane Hospital for Women, dedicated to obstetrics and gynaecology.³³

In the academic sphere, he was professor of neurology at the College of Physicians and Surgeons from the beginning of the 1910s, and in 1921 he was also listed as professor of psychiatry at the Postgraduate Medical School of New York.^{29,34} He taught medicine to third- and fourth-year students, giving theoretical lectures and directing practical sessions in the laboratories of the Neurological Institute, as part of a four-year degree.³⁵

In 1946, he belonged to the Medical Board of the Neurological Institute and was director of the child neurology department and consulting and attending neurologist at Vanderbilt Clinic and Sloane Hospital for Women. In 1948, he resigned from his position as director of the child neurology department due to progressive hearing loss, but continued working until 1951, when a successor was found. In 1952, now retired, he was a consulting neurologist and emeritus professor at Columbia University, where he was honoured alongside Henry Riley and Edwin Zabriskie.^{9,36,37}

Despite Casamajor's close links with the Neurological Institute and Columbia University, and with New York City Hospital during the early years, at different points in his life he also worked at a long list of New York hospitals. As a clinician, he worked as a consultant neurologist at Nassau Hospital in Mineola, Kings Park State Hospital and Pilgrim State Hospital in Brentwood (all three located in Long Island), the Beekman Downtown Hospital in Chelsea, Knickerbocker Hospital, Fifth Avenue Hospital, and two psychiatric hospitals of the Manhattan State Hospitals group (Manhattan State Psychiatric Center in Ward's Island and Central Islip Psychiatric Center in Long Island). Beyond the state of New York, he was a consultant psychiatrist at Englewood Hospital in New Jersey and Sharon Hospital in Connecticut.^{33,38}

Child neurology department at the Neurological Institute

In 1933, Bernard Sachs, now in his seventies, joined the Neurological Institute as professor of clinical neurology and director of the new division dedicated to the treatment of neurological disorders in children. His associate directors were Louis Casamajor, who had always showed an interest in nervous diseases in children, and Frederick Tilney, as head of research. After Sachs' death in 1944, Casamajor became director of the department of child neurology until 1951, when he was replaced by Sidney Carter (1912-2005).^{35,39-41}

Casamajor created a laboratory for the study of electroencephalography (EEG) in children, where J. Roy Smith, from the Babies' Hospital, performed exhaustive observations of brain waves in healthy children. He also worked with Robert Laidlaw, conducting extensive research on pneumoencephalography in children.³⁵

American Board of Psychiatry and Neurology

In the first third of the 20th century, the need to acknowledge the competency of professionals and to avoid unqualified practice became apparent in all medical specialties. In the case of psychiatry and neurology, in 1929, Louis Casamajor proposed to Adolf Meyer (1866-1950) that a board should be created for the certification of their specialists. The board would be shared with delegates from the ANA and American Psychiatric Association (APA), but it was not until 1934 that the board was created, with the aim of establishing the requisites for the practice of these specialties. Several meetings were held with representatives of the ANA (traditional neurology with an organic approach), APA (clinical psychiatry and psychoanalysis), and the Mental and Nervous Diseases Section of the American Medical Association (AMA; neuropsychiatry with a generalist practice of both specialties). After these meetings, an agreement was reached in a joint meeting held in October 1934 at the Hotel Commodore in New York.^{43,44}

Louis Casamajor was one of the representatives designated by the ANA, and thanks to the notes he took and deposited years later at the offices of the American Board of Psychiatry and Neurology (ABPN), we now know that what happened in those meetings, which were initially tense, was "like a fight between bulldogs." Casamajor, who considered himself mainly a neurologist, defended the primacy of this discipline. Thus, he proposed that the name of the new institution should

include both specialties in alphabetical order; therefore, the N for neurology would precede the P for psychiatry. He also believed that the fee for certification in one or both specialties should be the same, with no increases. Both proposals were categorically rejected on the first day, but the next morning, his proposal for a single fee was unanimously accepted after the intervention of the psychiatrist Franklin Ebaugh (1882-1957), who had been his strongest opponent: "Cassie [Casamajor's nickname], I think you are absolutely right". From then, relations between all members of the board were more easy-going, and Casamajor remembered his eight-year membership of this institution (1934-1942), as one of the happiest times of his long career.^{9,43,44}

In the founding group, the ABPN had 12 directors: six neurologists (Casamajor and his colleague Edwin Zabriskie, among others), and six psychiatrists (Figure 6). The board annually examined those candidates who, after a successful year of training at a certified centre, requested certification to practise neurology or psychiatry. The certification awarded in 1935 to Casamajor and his colleagues was that of specialist in neurology and psychiatry.⁴⁵

Societies and journals

Casamajor capably expressed ideas and concepts using logical arguments, and as a result he was appointed official speaker of several academic societies to which he belonged.⁴⁰ He frequently presented clinical cases and presided over many meetings; he was also cited in articles from other authors referring to patients he visited, neuropathological studies he performed, or making his laboratory available for performing tests.

Lewis Rowland (1925-2017) described him as avuncular person, kind to younger or less experienced people, and protective. While Casamajor never married, Melvin Yahr (1917-2004) mentioned that many saw him as a father, having been his students or patients during childhood.^{9,25,40}

He is listed as a member of many associations, including the American Medico-Psychological Association,³¹ the International Psychoanalytic Association, the New York Psychoanalytical Society,⁴⁶ the National Committee for Mental Hygiene,⁴⁷ the ANA (of which he was deputy vice-president in 1939⁴⁸), the APA,³⁸ the American Academy of Neurologists, and the American Association of Anatomists.³¹ Furthermore, he was president of the New York Neurological Society, the New York Psychiatric



Figure 6. Founding directors of the ABPN at the organisational meeting. Left to right, standing: Franklin G. Ebaugh, Louis Casamajor, J. Allen Jackson, Lloyd H. Ziegler, Lewis J. Pollock, Edwin G. Zabriskie. Seated: Clarence C. Cheaney, C. Macfie Campbell, Walter J. Freeman, H. Douglas Singer, Adolf Meyer, and George W. Hall. The six representatives of the ANA are highlighted with circles. Hotel Commodore, New York, 20 October 1934.⁹

Society, and the New York Society for Clinical Psychiatry.⁹ Together with his colleague Frederick Tilney, he also belonged to the American Association of Mammalogists, dedicated to the scientific study of mammals.⁴⁹

In 1936, he was appointed to sit on the Mental Hospital Survey Committee, an institution that coordinated the organisation of public mental hospitals in the United States.⁵⁰

For several years, he belonged to the editorial board of such journals as *Archives of Neurology and Psychiatry*, *Journal of Nervous and Mental Diseases*, and *Neurological Bulletin*, among others.^{26,34,51}

Smith Ely Jelliffe and Abraham Brill, two friends of Louis Casamajor

One important person in Casamajor's life was Smith Ely Jelliffe, whom he met during his childhood in Brooklyn. Jelliffe had an encyclopaedic knowledge, and was a versatile scientist, neurologist, psychiatrist, pioneer of

psychoanalysis, and founder of psychosomatic medicine. He also had a vast knowledge of neurology, serving for 40 years as editor of the influential *The Journal of Nervous and Mental Disease* (1902-1944), the first American journal dedicated to nervous system disorders, founded in 1874.^{8,24} His treatise *The modern treatment of nervous and mental diseases*, over 1600 pages long and edited in collaboration of William Alanson White, was a reference text in the field for years. Chapter 16 of the 1913 first edition, dedicated to toxæmias in dangerous work and drugs, was authored by Louis Casamajor.^{8,52}

The same year, Casamajor also published an updated version of John Cargyll Shaw's (1845-1900) work *Essentials of nervous system diseases and insanity*, its fifth edition. The text was a manual for students and professionals, and the first edition was published in 1892.⁵³

Louis Casamajor became interested in botany after reading an article published by Jelliffe in 1890 on the

plants in Prospect Park in Brooklyn. He would later study under Jelliffe at the College of Physicians and Surgeons, and was trained by him during his neurology internship at the New York City Hospital and in the early years of the Neurological Institute. Jelliffe's vast knowledge of anatomy and clinical neurology, as well as his command of the medical literature, were especially significant in Casamajor's training. They also coincided during trips to Europe in 1908-1909, during which they consolidated their friendship.⁸

Abraham Brill was another good friend of Louis Casamajor. He was an Austrian Jew who emigrated to New York and graduated from the College of Physicians and Surgeons in 1903. He returned to Europe in 1907 and felt attracted to psychoanalysis after meeting Sigmund Freud (1856-1939) in Vienna; he established a close friendship with Freud, becoming his official English-language translator and one of his main supporters in America. Upon returning in 1908, he was the first person to establish a private psychoanalysis practice in the United States, and in 1911 he founded the New York Psychoanalytic Society, where he was a driving force until 1935.

Casamajor and history. The Vidonian Club

The Vidonian Club was created in 1914 as a reaction against official neurology and psychiatry, as its founders believed these disciplines to be too rigid. It was named after a wine from Tenerife, highly praised in England and the former British colonies. The club's constitution, drafted by Casamajor and the psychiatrists Abraham Brill and George Kirby (1875-1935), mandate that a member of the club should speak about social and philosophical subjects during the club's soirées, during which members ate dinner and drank wine. The club was founded to rival those "Cassie" referred to as "Dodos": "the Danas, the Starrs, the Petersons, the Hammonds and the other departed souls who wallowed in abstruse neurology and jejune psychiatry." They, the youngsters, wanted something fun, something social, something jovial. Abraham Brill remembered that Casamajor, official speaker at the Vidonian Club, would always defend him and stood by his side in the controversies he became embroiled in due to his defence of psychoanalysis in academic fora.⁵⁵

It was probably an alternative to the select Charaka Club, which bore the name of an ancient Indian physician and aimed to address literary, artistic, and historical

aspects of medicine. That club was founded in 1898 by Charles Loomis Dana, Bernard Sachs, Joseph Collins, and Frederick Peterson, among others, and its members included Pearce Bailey, Moses Allen Starr, Smith Ely Jelliffe, Robert Foster Kennedy, and Harvey Cushing (1869-1939).⁵⁶

Some of Casamajor's lectures at the Vidonian Club addressed historical subjects. Thus, in 1934, he outlined the history of American psychiatry and neurology. Psychiatry, a discipline older than neurology, initially aimed exclusively to isolate mentally ill people to avoid them from hurting others, confining them in asylums that essentially served as jails. Neurology was born during the civil war of the 1860s, and soon surpassed psychiatry, but given its lack of therapeutic promise, it was pushed into the background by neurosurgery following the First World War. It is indicative that in 1943, all three North American neurological institutes were directed by neurosurgeons: Tracy Putnam in New York, Paul Bucy (1904-1992) in Chicago, and Wilder Penfield (1891-1976) in Montreal. However, psychiatry recovered its importance during the 1920s, with such procedures as insulin coma, malariotherapy, or electric shock therapy. In this regard, several authors subsequently echoed the irony of Casamajor, who questioned whether shock therapies were good for patients, despite having been positive for psychiatry.⁵⁷ In another lecture to the club, he presented a clinical study on the neurasthaenia of the historian Francis Parkman (1823-1893).⁵⁸

Characters in a novel

Abraham Brill hosted Sigmund Freud when he travelled to the United States in late August 1909 to give some lectures at Clark University in Worcester. Their close friendship was mentioned in Jed Rubenfeld's (1959-) novel *The interpretation of murder*, which also offers a highly negative view of Jelliffe and his colleagues at the Charaka Club, Dana, Sachs, and Starr.⁵⁹ It is unlikely that Jelliffe was living in New York during that time, as his domicile was registered in Paris, and during those days he was attending the 16th International Medical Congress in Budapest¹³; shortly thereafter he was in Munich.⁸

While he is not mentioned in Rubenfeld's book, Louis Casamajor is one of the main characters in the novel by Jørn Pretch (1967-), *Das Geheimnis des Dr. Alzheimer*. In this case, the author identified him as one of the people closest to the German physician during the spring of 1906 in Munich. In fact, the young Casamajor was in New

York at that time, finishing his medical studies. However, very few years later, he entered Alois Alzheimer's circle.⁶⁰

Scientific activities

1. Brain glycogen deposition

In 1909, Casamajor was the first to describe brain glycogen depositions, both in glial cells and neurons and at the extracellular level in the perivascular spaces, in patients who had died due to systemic conditions with no signs of diabetes, proposing the hypothesis that some toxin or chemical agent may be blocking glycogenolysis. Casamajor also detected these depositions in the perivascular space in diabetic patients. Two articles were initially published in journals in Vienna after his period training with Otto Marburg^{61,62}; he later published 2 other articles in Germany in 1913, which were reprinted in 1918. The latter two studies mentioned that the research was performed at the microscopy laboratory of the Psychiatric Clinic in Munich, under the direction of professor Alzheimer.^{65,66}

Gonzalo Rodríguez Lafora, in a 1912 publication describing the amyloid degeneration of nervous cells in myoclonic epilepsy, also reported some products of disintegration in the protoplasm, such as the glycogen described by Casamajor in some cases of heart disease.⁶⁵

2. Neurosyphilis

After their experience in Germany, in 1911, Casamajor and Jelliffe promoted the diagnosis of neurosyphilis in the United States by translating from German the book that Felix Plaut (1877-1940) had published in 1909 on the serological reaction described in 1906 by August von Wassermann (1866-1926), who had been his mentor. As director of the serological laboratory of the Psychiatric Clinic at the University of Munich, Plaut expressly authorised the translation.⁶⁶

During Casamajor's work towards the introduction of serological diagnosis of syphilis, he worked with David Kaplan, laboratory director of the Neurological Institute, even for other hospitals. Thus, in 1912, they performed the laboratory work for an extensive review of serology studies of the blood and cerebrospinal fluid (CSF) of 200 patients with several mental disorders from the Bellevue Hospital; the review was performed by Morris Karpas (1879-1918).⁶⁷ The same year, they published their neuroserological findings on the different forms of neurosyphilis and other nervous disorders.⁶⁸

In 1914, Casamajor presented a case of muscle atrophy of the right shoulder girdle and arm, with flaccid paralysis and hyporeflexia and no sensory disorders, in a patient with syphilis and positive Wassermann reaction in the blood and CSF. Similar cases had been observed in patients with autopsy findings of neurosyphilis and spinal cord atrophy.⁶⁹

3. Neurotoxicology

In 1911, Casamajor conducted an extensive review of the undesirable effects of bromide on the nervous system. He underscored its depressive effect and the delusional symptoms it may cause, of which he reported two cases. He warned that this toxicity was underdiagnosed and recommended that bromide only be prescribed under very strict medical control.²⁷ Casamajor also reported that severe cases of arsenic poisoning may present with memory disorders and occasionally typical polyneuritic psychosis or Korsakov syndrome.⁷⁰

Between 1901 and 1904, nine cases of manganese poisoning were reported in Europe. In the United States, Casamajor presented a series of nine patients with manganese poisoning at the 15th International Congress on Hygiene and Demography, held in September 1912 in Washington²⁹; he later reported these cases in an article.⁷¹ He described the characteristic symptoms, with features shared with paralysis agitans. Patients showed a tendency to retropulsion and instability, rigidity, insomnia, facial masking, and a propensity for compulsive laughter. Another frequent symptom was tongue tremor and a fine static tremor in the hands. In 1916, he published again on manganese poisoning, adding another case and the neuropathological study findings from one of the patients.⁷² These cases were brought to his attention by a former colleague from the New York City Hospital, who worked in Franklin (New Jersey), where the factory responsible for the poisoning was located.^{71,73}

4. Spinal and brachial plexus pathology

In 1911, Bailey and Casamajor presented five cases of osteoarthritis of the thoracolumbar spine with symptoms of pain, spinal rigidity, and signs of cauda equina and lower thoracic spinal cord involvement. Two patients with paraparesis were operated on by Charles Elsberg; after undergoing laminectomy, one recovered completely and the other partially. An anatomical pathology study of both cases revealed the inflammatory character of the process. The remaining patients, with

no spinal cord signs, improved with the use of a corset. The authors suggested that spinal osteoarthritis may cause compression of the spinal cord and nerve roots due to bone growth. This is the first observation of thoracolumbar stenosis with symptoms improving after a laminectomy.⁷⁴

In 1906-1907, at the New York City Hospital, Casamajor treated a patient with a gunshot wound causing a T10-T11 spinal injury, leading to paraplegia. After an emergency surgery, the patient progressively improved, regaining the ability to walk.⁷⁵ In 1921, he also presented a case of spinal cord concussion presenting with paraplegia, hypoaesthesia, and urinary retention, which resolved completely in a matter of days.⁷⁶

In 1913, he and the neurosurgeon Alfred Taylor published six cases and an extensive review of traumatic Erb's paralysis in adult patients, which mainly affected the upper brachial plexus and was becoming increasingly frequent.⁷⁷

5. Clinical cases

During the early years of the Neurological Institute, Casamajor published several clinical cases, some of which he had previously presented in some session. These texts included the opinions of other neurologists, in the same way as he appeared in articles by other authors. Thus, in 1913, he published two studies of patients with alexia, with one recovering spontaneously and the other case being caused by a tumour in the calcarine sulcus,^{78,79} in addition to a case of cortical astereognosia of tumoural origin.⁸⁰ In 1914, he presented the case of an adolescent girl who underwent surgery due to a right temporal tumour and whose symptoms improved after suspected spontaneous emptying of a cystic collection in the cerebral ventricles.⁸¹ Two years later, he published the case of a girl with Millard-Gubler syndrome, presenting a regressive course over a period of one year.⁸²

6. Guillain-Barré syndrome

In June 1919, three months after returning to New York, Louis Casamajor drew attention to a rare nervous disease that presented in troops stationed in France, in whom he had observed four or five cases. The soldiers presented fever progressing for two to four days, followed several weeks later by rapidly progressive symptoms of areflexia and ascending flaccid paralysis, potentially leading to death due to respiratory paralysis. He also presented

neuropathological findings from two patients who died in France; he studied their spinal cords and posterior spinal ganglia and later took the samples with him to America after the autopsy.²⁰ Soon after, four studies were published in English, one of them by Casamajor, and a previous study in French, which gave rise to the name Landry-Guillain-Barré-Strohl syndrome.⁸³

In 1941, Casamajor and Alpert reviewed the syndrome in the paediatric population, in which very few cases had been reported, adding three new cases studied at the Neurological Institute and providing EEG findings. The name of the entity was still being debated, and they advocated for the name Guillain-Barré syndrome.⁸⁴ At that time, it was important to differentiate Guillain-Barré syndrome from poliomyelitis, with which it could be confused and which involved a poorer prognosis. Casamajor had already researched this disease in 1917, comparing neuropathological findings from 18 epidemic cases with findings in experimental animals injected with poliovirus.⁸⁵

7. Embryology, myelination, and consciousness

Louis Casamajor showed a predilection for embryological and experimental studies. His doctoral thesis, presented in 1903, was on the amphibian brain.⁸⁶ In 1914, he analysed vestibular disorders in rodents after an induced middle ear infection.⁸⁷ In 1917, Casamajor and Frederick Tilney studied the fetal vascularisation of the rat brain.⁸⁸ In 1924, they both studied the process of myelination in the cat nervous system at birth and during the first days of life, and its relationship with the acquisition of behavioural abilities. Their results were consistent with Flechsig's myelogenetic law of 1920, which correlated the myelination process with the development of behaviour, a vision considered overly simplistic.⁸⁹

In 1928 and 1929, Casamajor published papers on the progressive development of consciousness, based on the comparative embryological and anatomical studies conducted by Tilney, Pavlovian theory, and psychoanalysis. He described the evolution of the nervous system (which allows greater sensory complexity in responses to the environment in higher animals), the role of conditioned reflexes in the formation of symbols, and the development of language as the highest form of mental symbols, with consciousness arising as a state of cognitive clarity. He contrasted this process against the primitive, poorly elaborated unconscious.^{90,91}

In 1937, he presented the case of a three-year-old boy with anencephaly, who only preserved a small amount of brain tissue poorly adhered to the internal layer of the dura mater.⁹²

In 1944, he and Otto Marburg studied the cases of two children with severe encephalopathy, with neuropathological findings revealing encephalomalacia with cystic lesions in the brain hemispheres, and preservation of the brainstem. They attributed the process to perinatal traumatic damage with phlebo-stasis and phlebothrombosis of the cerebral systems of the vein of Galen and the superior longitudinal sinus, which are more sensitive to trauma than the arterial system, causing lesions to the venous drainage territory. They observed encephalomalacia and necrosis, as well as a sclerotic reaction in the glia and destruction of the myelin sheaths and axons. The authors attributed a venous origin to Schilder disease and multiple sclerosis.¹²

8. Abscesses and meningoencephalitis

In 1920, Casamajor wrote a review on the differential diagnosis and treatment of brain abscesses, with special reference to otogenic abscesses.⁹³

In 1924, together with Micheal Osnato (1886-1932), he published a detailed anatomical pathology study of the brain of a 2-year-old boy presenting a choreic syndrome in the context of rheumatic disease, who died due to myocarditis and acute meningoencephalitis.^{94,95}

In an article published in 1952, Casamajor drew a historical sketch of "brain fever," a subject widely addressed in the medical literature published before 1850 but which later ceased to be mentioned, even in neurology treatises. He reported four cases of encephalitis in children presenting severe acute neurological syndrome with fever, who recovered after several days or weeks, in whose diagnosis he particularly considered CSF and EEG findings, in addition to clinical symptoms. This was one of his last works.⁹⁶

9. Pneumoencephalography, electroencephalography, and epilepsy

In 1936, Louis Casamajor and his colleague Henry Riley promoted the candidacy of Walter Dandy (1886-1946) for the Nobel Prize for Medicine, for his discovery of pneumoencephalography in 1919; Dandy was not ultimately awarded the prize.⁹⁷ With vast experience with this procedure, his group published in 1949 the results

of their work with 500 children at the Neurological Institute, half of whom had epilepsy. He concluded that the technique was a neurosurgical, rather than a neurological, diagnostic method, which was necessary if tumours or other progressively growing lesions were suspected, but was underutilised in the diagnosis and treatment of epilepsy, intellectual disability, congenital anomalies, or infectious diseases of the central nervous system.⁹⁸ In 1951, his group published a review on the use of the technique in children.⁹⁹

In 1939, he and Laidlaw reported nine cases of children with the syndrome described in 1933 by his colleagues Dyke, Davidoff, and Masson, characterised by unilateral cerebral hypoplasia and concomitant enlarged skull and homolateral sinuses, associated with clinical symptoms of hemiplegia and seizures from childhood, probably of perinatal traumatic, inflammatory, or vascular origin.^{100,101}

In 1941, Casamajor published a series of 17 children with focal seizures, in which he compared clinical symptoms with EEG findings, identifying bilateral alterations, predominantly contralateral to the seizures, whereas pneumoencephalography provided little information. Surgical examination was only indicated when pathological findings were identified with all three methods.¹⁰²

10. Neurosis

In 1920, Casamajor wrote on the manifestations emerging over the course of chronic organic diseases but not directly associated with them, which he referred to as "personal symptoms" and not "neurotic symptoms".¹⁰³ A year later, he published two articles on neurotic disorders associated with professional life,¹⁰⁴ and problems of social adaptation.³⁴ From a Freudian perspective, he referred to psychoneurosis as a product of civilisation in 1930,¹⁰⁵ and in 1936 he analysed its aetiological forms.¹⁰⁶

His other job: writer of obituaries

Casamajor wrote the obituaries of several fellow neurologists, psychiatrists, and neurosurgeons, partly due to his longevity but also due to his amiable character. Among others, he wrote the obituaries of Moses Allen Starr,¹⁰⁷ Michael Osnato,⁹⁷ George Hughes Kirby,¹⁰⁸ James Ramsay Hunt,¹⁰⁹ Frederick Tilney,²⁶ William Creighton Garvin,¹¹⁰ Smith Ely Jelliffe,¹¹¹ Christopher Charles Beling,¹¹² Abraham Arden Brill,⁵⁵ Samuel Torrey

Orton,¹¹³ Clarence Charles Burlingame,¹¹⁴ Oliver Smith Strong,¹¹⁵ and Samuel Warren Hamilton.¹¹⁶ Melvin Yahr wrote Casamajor's obituary in 1963.⁴⁰

Death

Louis Casamajor died in December 1962 as a consequence of coronary thrombosis, at 81 years of age.³⁸ His sister Mary deposited his medical library at Columbia University in 1963.¹¹⁷ Like most members of his family, he was buried at the Greenwood Cemetery in Brooklyn,⁵ not far from Prospect Park and the family home at no. 372, Greene Avenue.

Conclusions

Louis Casamajor promoted numerous initiatives in the fields of neurology and psychiatry in his day, and frequently took central roles at conferences and scientific meetings; he was in great demand as a speaker at congresses. As a writer, his prose was careful and cultivated.

He also had a heterodox side, taking a sometimes ironic view of official neurology and psychiatry, and exploring psychoanalysis; he had close relationships with such controversial personalities as Abraham Brill or Smith Ely Jelliffe, although he always preserved his identity as neurologist.

From his office at Columbia University and the Neurological Institute, he gained considerable experience practising neurology and psychiatry in children and adults, as well as experience as an instructor. He was a pioneer in the description of the Guillain-Barré syndrome, manganese poisoning, the introduction to North America of the Wassermann reaction for the diagnosis of neurosyphilis, the description of compressive myelopathy, and the use of pneumoencephalography and EEG in children. A neuropathologist trained in Austria and Germany, he was the first to describe cerebral glycogen deposition, and studied the embryonic development of the brain and the process of myelination in the mammalian nervous system. As a result of these studies and his knowledge of Freudian and Pavlovian theory, he wrote on the evolutionary character of consciousness. In the field of psychiatry, he became interested in neurosis and was one of the first American supporters of psychoanalysis, a discipline that he had learnt first-hand in Vienna in the early 20th century.

His name has largely been neglected in the history of neurology. It has not been linked to any disease, syndrome, sign, or test, unlike those of some of his colleagues from the Neurological Institute, including Bernard Sachs, James Ramsay Hunt, Robert Foster Kennedy, and Israel Wechsler. However, he was a very active member of neurological and psychiatric circles in his city and country. Many authors refer to Casamajor as an influential neurologist from New York.

Conflicts of interest

The author has no conflicts of interest to declare. This is an original article. This study has not been presented at the SEN's Annual Meeting or at any other meeting or congress, nor has it been submitted to other journals. The author has received no public or private funding for this study.

References

1. Frucht S, Sommer BW. Interview with Lewis P. "Bud" Rowland, MD. American Academy of Neurology Oral History Project. November 19, 2012. [accessed 3 Jun 2020]. Available from: <https://fliphtml5.com/cgdd/xgre/basic>
2. Renault A. La influencia de la masonería francesa en el Departamento Oriental de Cuba en los años veinte del siglo XIX. Los aportes de la prosopografía. REHMLAC. 2009;1:74-89.
3. Bacardí y Moreau E. Crónicas de Santiago de Cuba. Tomo II. Santiago de Cuba: Arroyo Hermanos; 1925.
4. de Cauna J. Des Pyrénées à la Sierra Maestra: aux origines du modèle caféier cubain, Casamajor et les Béarnais dans l'Orient. In: Duma J. Des ressources et des hommes en montagne. Paris: Editions du Comité des travaux historiques et scientifiques; 2019.
5. Paul Casamajor [accessed 15 Jun 2020]. Available from: <https://gw.geneanet.org/phcoste?lang=en&pz=fille&nz=coste&ocz=2&xp=paul&n=casamajor>
6. Endemann H. Paul Casamajor. J Am Chem Soc. 1887;9:206-8.
7. Notables among Adelphi alumni. Brooklyn Daily Eagle, 13 Feb 1933:55.
8. Burnham JC, McGuire W. Jelliffe: American psychoanalyst and physician. His correspondence with Sigmund Freud and C.G.Jung. Chicago: University Chicago Press; 1983.
9. Dyken ML. Giants in Neurology. Prepared for and partially presented at the ABPN 75th Anniversary Celebration on September 26, 2009. [accessed 4 Jun 2020]. Available from: https://www.abpn.com/wp-content/uploads/2015/01/Dyken_Giants_In_Neurology.pdf
10. Appointments, Resignations, etc. Am J Psychiatry. 1908; 65:408-13.
11. Oberndorf CP. A history of psychoanalysis in America. New York: Grune & Stratton; 1953.

12. Marburg O, Casamajor L. Phlebostasis and phlebothrombosis of the brain in the newborn and in early childhood. *Arch Neurol Psychiatry*. 1944;52:170-88.
13. XVI Congrès International de Médecine: Budapest, août-septembre 1909 compte-rendu [accessed 12 Jul 2020]. Available from: https://archive.org/stream/b28120966_0022/b28120966_0022_djvu.txt
14. Maurer K, Maurer U. Alzheimer, la vida de un médico y la historia de una enfermedad. Ed. española (Ruiz Ezquerro JJ, ed). Madrid: Díaz Santos; 2006.
15. Pérez-Trullén JM. Breve biografía de Alois Alzheimer. *Neurosci Hist*. 2013;1:125-36.
16. Gondra JM. Nicolás Achúcarro (1880-1918): First histopathologist of the Government Hospital for the Insane in Washington D.C. *Rev Hist Psicol*. 2019;40:2-12.
17. Sánchez N. Adolf Meyer and Spain. *Psychologia Latina*. 2011;2:115-31.
18. Finland brings many Brooklyn-Long Island men. *Brooklyn Daily Eagle*, 14 Feb 1919:3.
19. Novak S. Over there: the Presbyterian Base Hospital in France, 1917-1918. 29 Jan 2018 [accessed 25 Jun 2020]. In: Primary sources. The blog of the CUMC health sciences library archives & special collections. Available from: <https://blogs.cuit.columbia.edu/hslarch/presbyterian-base-hospital-france-1917-1918/>
20. Casamajor L. Acute ascending paralysis among troops; pathologic findings. *Arch Neurol Psych*. 1919;2:605-20.
21. Riley HA. The Neurological Institute of New York: the first hospital in the western hemisphere for the treatment of disorders of the nervous system. The intermediate years. *Bull N Y Acad Med*. 1966;42:654-78.
22. Quest DO, Pool JL. A history of the Neurological Institute of New York and its Department of Neurological Surgery [s.d.] [accessed 7 Jun 2020]. Available from: <https://www.columbianeurosurgery.org/about/about-us/our-history/>
23. Stookey B. "What is past is prologue". *Arch Neurol*. 1959;1:467-74.
24. Stookey B. The Neurological Institute and early neurosurgery in New York. *J Neurosurg*. 1960;17:801-14.
25. Rowland LP. The Legacy of Tracy J. Putnam and H. Houston Merritt: Modern Neurology in the United States. New York: Oxford University Press; 2009.
26. Casamajor L. Frederick Tilney, M.D. 1876-1938. *J Nerv Ment Dis*. 1938;88:561-4.
27. Casamajor L. Bromide intolerance and bromide poisoning. *J Nerv Ment Dis*. 1911;38:345-57.
28. Annual Reports of The Neurological Institute of New York for the years 1910-1920. In: *Forgotten Books* [Internet], 2016 [accessed 15 Jun 2020]. Available from: www.forgottenbooks.com
29. Casamajor L. An unusual form of mineral poisoning affecting the nervous system: manganese? Transactions of the Fifteenth International Congress on Hygiene and Demography. Volume Three, Part II - Proceedings of Section IV. Hygiene of Occupations. Washington: Governmental Printing Office; 1913. p.574-81.
30. Medical Directory of New York, New Jersey and Connecticut, 1914. Medical Society of the State of New York, vol. XVI. New York: Federal Printing Co; 1914.
31. Medical Directory of New York, New Jersey and Connecticut, 1922. Medical Society of the State of New York, vol. XXIV. New York: Federal Printing Co; 1922.
32. Annual report of the Neurological Institute of New York, 1920-1930. [accessed 7 Jun 2020]. Available from: https://archive.org/stream/annualreportofne1117neur/annualreportofne1117neur_djvu.txt
33. 1935-36 Medical Directory of New York. Published by: The Medical Society of the State of New York (Hospitals of New York State-NYC), Boroughs of Manhattan and Bronx, Volume: XXXVII. Hospital Physicians List. [accessed 5 Jun 2020]. Available from: <http://bklyn-genealogy-info.stevemorse.org/Directory/1935.Manh.Bronx.Hospital.html>
34. Casamajor L. The social development of man and his problems of adjustment. *Neurol Bull*. 1921;3:125-9.
35. Columbia University Bulletin of Information, 32nd series, n° 22, February 27, 1932. Report of the Dean of Medicine for the period ending June 30, 1931. [accessed 5 Jun 2020]. Available from: https://archive.org/stream/reportofdean1931colu/reportofdean1931colu_djvu.txt
36. Annual report of the Presbyterian Hospital in the City of New York, 1940s [accessed 4 Jun 2020]. Available from: https://archive.org/stream/annualreportofpr00pres_3/annualreportofpr00pres_3_djvu.txt
37. Annual report of the Presbyterian Hospital in the City of New York, 1950s [accessed 4 Jun 2020]. Available from: https://archive.org/stream/annualreportofpr00pres_4/annualreportofpr00pres_4_djvu.txt
38. Deaths. *JAMA*. 1963;183:969-74.
39. News from the Field. *Am J Public Health*. 1935;25:237-8.
40. Yahr MD. Louis Casamajor (1881-1962). *Trans Am Neurol Assoc*. 1963;88:299.
41. Stumpf DA. The founding of pediatric neurology in America. *Bull N Y Acad Med*. 1981;57:804-16.
42. Grob GN. Mental illness and American society, 1875-1940. Princeton (NJ): Princeton University Press; 1983.
43. Freeman W, Ebaugh FG, Boyd DA. The founding of the American Board of Psychiatry and Neurology, Inc. *Am J Psychiatry*. 1959;115:768-78.
44. Koehler PJ. The four horsemen and the American Board of Psychiatry and Neurology (ABPN). *J Hist Neurosci*. 2018;27:292-302.
45. Carmichael HT. Perspectives on the American Board of Psychiatry and Neurology. *Arch Gen Psychiatry*. 1963;8:405-17.
46. *Korrespondenzblatt der Internationalen Psychoanalytischen Vereinigung 1910-1941*. [accessed 21 Jul 2020]. Available from: https://www.luzifer-amor.de/fileadmin/bilder/Downloads/korrespondenzblatt_1910-1941.pdf
47. Members and directors of The National Committee for Mental Hygiene, Inc. *Mental Hygiene*. 1921;5(2):447.
48. ANA Board of Directors by Year [accessed 13 Jul 2020]. Available from: https://myana.org/sites/default/files/docs/2018/2019_executive_council_officers_and_councilors.pdf

49. List of members of The American Society of Mammalogists. *J Mammalogy*. 1922;3:203-18.
50. Treadway WL. An organization for promoting mental hospital services in the United States and Canada. *Public Health Reports* (1896-1970). 1936;51:1783-91.
51. Association news. *JAMA*. 1933;100:667-8.
52. Casamajor L. The treatment of the toxemias of dangerous trades and of drugs. In: White WA, Jelliffe SE, eds. *The modern treatment of nervous and mental diseases*, vol. II. Philadelphia: PA: Lea & Febiger; 1913. p.672-95.
53. Shaw JC, Casamajor L. *Essentials of nervous diseases and insanity*, 5th ed. Philadelphia and London: WB Saunders; 1913.
54. Casamajor L. Abraham Arden Brill, M.D. 1874-1948. *Arch Neurol Psych*. 1948;59:539-40.
55. Brill AA. Thoughts on life and death or Vidonian all souls' eve. *Psychiat Q*. 1947;21:199-211.
56. Charaka Club Records, 1898-2012. [accessed 12 Jul 2020]. Available from: <https://www.nyam.org/library/collections-and-resources/archives/finding-aids/ARC-0004.html/>
57. Casamajor L. Notes for an intimate history of Neurology and Psychiatry in America. *J Nerv Ment Dis*. 1943;98:600-8.
58. Casamajor L. The illness of Francis Parkman. *Am J Psychiatry*. 1951;107:749-52.
59. Rubinfeld J. *La interpretación del asesinato*. Barcelona: Anagrama; 2007.
60. Precht J. *Das Geheimnis des Dr. Alzheimer: Roman*. Stuttgart: Gmeiner; 2017.
61. Casamajor L. Zur Histochemie der Ganglienzellen der menschlichen Hirnrinde. Obersteiners Arbeiten. 1909: Vol. XXXVI.
62. Casamajor L. Zur Histochemie der Ganglienzellen der menschlichen Hirnrinde. *Arb Neur Inst Wien*. 1910;18:101-10.
63. Casamajor L. Über das Vorkommen basophil-metachromatischer Stoffe im Zentralnervensystem bei Verschiedenen krankheitsformen. In: Nissl F, Alzheimer A, eds. *Histologische und histopathologische Arbeiten über die Grosshirnrinde*. Jena: Gustav Fischer; 1913. Vol. 6. p.33-51.
64. Casamajor L. Über das Glykogen im Gehirn. In: Nissl F, Alzheimer A, eds. *Histologische und histopathologische Arbeiten über die Grosshirnrinde*. Jena: Gustav Fischer; 1913. Vol. 6. p.52-73.
65. Rodríguez Lafora G. Sobre algunas degeneraciones de las células nerviosas nuevamente conocidas. *Boletín de la Sociedad Española de Biología*. 1912;2:296-8.
66. Plaut F, Jelliffe SE, Casamajor L. *The Wassermann serodiagnosis of syphilis in its application to psychiatry, nervous and mental disease*. New York: Journal of Nervous and Mental Disease Publishing Company; 1911.
67. Karpas MJ. The clinical interpretations of the serological content of the blood and cerebrospinal fluid, with some reference to the cytology and chemistry of the latter, in mental disease. *Am Journal of Insanity*. 1912;69:143-68.
68. Kaplan DM, Casamajor L. The neuroserological findings in tabes, general paresis, and other nervous and mental diseases. *Ann Int Med*. 1912;9:262-72.
69. Casamajor L. A case of muscular atrophy on a syphilitic basis. *J Ment Nerv Dis*. 1914;41:243.
70. May JV. *Mental diseases; a public health problem*. Frankfurt am Main: Outlook; 2020.
71. Casamajor L. An unusual form of mineral poisoning affecting the nervous system: manganese? *JAMA*. 1913;60:646-9.
72. Casamajor L. Manganese poisoning. In: Kober GM, Hanson WC, eds. *Diseases of occupation and vocational hygiene*. Philadelphia: P. Blakiston's Son & Co.; 1916. p.119-25.
73. Blanc PD. The early history of manganese and the recognition of its neurotoxicity, 1837-1936. *Neurotoxicology*. 2018;64:5-11.
74. Bailey P, Casamajor L. Osteo-arthritis of the spine as a cause of compression of the spinal cord and its roots. With reports of five cases. *J Ment Nerv Dis*. 1911;38:588-609.
75. Spinal cord mended. A wonderful operation. *The Advertiser* (Adelaide, SA: 1889-1931). 14 Sep 1907:12.
76. Casamajor L. Spinal concussion. Report of case. *N Y State J Med*. 1921;21:99.
77. Taylor AS, Casamajor L. Traumatic Erb's paralysis in the adult. *Ann Surg*. 1913;18:577-604.
78. Casamajor L, Karpas MJ. A case of alexia and hemianopsia, with remarks on the localisation of such lesions. *J Ment Nerv Dis*. 1912;39:577-83.
79. Casamajor L. A case of pure alexia, with localization confirmed at operation. *Med Rec NY*. 1913;88:407-9.
80. Jelliffe SE, Casamajor L. Brain of patient with cortical astereognosis. *J Nerv Ment Dis*. 1913;40:593-604.
81. Casamajor L. A case of brain neoplasm with unusual features. *J Nerv Ment Dis*. 1914;41:241-2.
82. Casamajor L. A case of Millard-Gubler syndrome. *J Ment Nerv Dis*. 1916;44:354-6.
83. Horowitz SH. The idiopathic polyradiculoneuropathies, a historical guide to an understanding of the clinical syndromes. *Acta Neurol Scand*. 1989;80:369-86.
84. Casamajor L, Alpert GR. Guillain-Barre syndrome in children: a review of the literature and report of three additional cases. *Am J Dis Child*. 1941;61:99-107.
85. Casamajor L, Howe HS. Studies in the pathology of human and experimental poliomyelitis. *J Ment Nerv Dis*. 1917;46:442-3.
86. Casamajor L. *Development of fibre tracts in the amphibian brain* [doctoral thesis]. Columbia College A.B. Theses Collection, 1878-1905, Volume 1903 C (CO F03 1903 v.3 Q C).
87. Casamajor L. Pathological findings in the infectious ear disease of rodents. *Proc N Y Path Soc*. 1914;14:68-72.
88. Tilney F, Casamajor L. The development of the hemal channels in the central nervous system of the albino rat. *Anat Rec*. 1917;11:425-8.
89. Tilney F, Casamajor L. Myelinogeny as applied to the study of behavior. *Arch Neurol Psychiatry*. 1924;12:1-66.
90. Casamajor L. Some central nervous system factors in the make-up of consciousness. *Am J Psychiatry*. 1928;8:457-65.
91. Casamajor L. The evolution of symbols in the development of consciousness. *Arch Neurol Psychiatry*. 1929;22:865-72.

92. Casamajor L. A child without a forebrain. *Tr Am Neurol A.* 1937;63:64-7.
93. Casamajor L. The diagnosis of brain abscess. *Laryngoscope.* 1920;30:436-40.
94. Osnato M, Casamajor L. Meningo-encephalitis associated with carditis. Report of a case with necropsy findings. *Arch Neurol Psychiatry.* 1924;12:553-8.
95. Casamajor L. Michael Osnato. *Am J Psychiat.* 1932;89:410-11.
96. Casamajor L. Brain fever. *JAMA.* 1952;149:1443-6.
97. The Nobel Prize. Nomination Archive [accessed 9 Jul 2020]. Available from: <https://www.nobelprize.org/nomination/archive/show.php?id=12229>
98. Casamajor L, Laidlaw RW, Kozinn PJ. Validity of pneumoencephalographic diagnosis. A study of five hundred pneumoencephalograms in children. *JAMA.* 1949;140:1329-30.
99. Casamajor L, Laidlaw RW, Kozinn PJ. The technique of pneumoencephalography in children: comparative results with air and oxygen injection. *J Pediatr.* 1951;38:463-7.
100. Casamajor L, Laidlaw RW. Convulsive states with evidence of brain hemiatrophy. *Am J Psychiat.* 1939;96:165-75.
101. Dyke CG, Davidoff LM, Masson CB. Cerebral hemiatrophy with homolateral hypertrophy of skull and sinuses. *Surg Gynecol Obstet.* 1933;57:588-600.
102. Casamajor L, Smith JR, Constable K, Walter CWP. The electroencephalogram of children with focal convulsive seizures. *Arch Neurol Psychiatry.* 1941;45:834-47.
103. Casamajor L. The personality of the patient: a neglected factor in treatment. *JAMA.* 1920;75:471-3.
104. Casamajor L. Neuroses in business life. *Neurol Bull.* 1921;3:237-42.
105. Casamajor L. The psychoneuroses. *Bull N Y Acad Med.* 1930;6:306-13.
106. Casamajor L. Some factors in the etiology of the psychoneuroses. *Ann Int Med.* 1936;12:1677-83.
107. Casamajor L. Obituaries. M. Allen Starr, M.D. (1854-1932). *Arch Neurol Psychiatry.* 1932;28:1411-3.
108. Casamajor L. George Hughes Kirby 1875-1935. *Arch Neurol Psychiatry.* 1935;34:1311-3.
109. Casamajor L. James Ramsay Hunt. *Am J Psychiatr.* 1937;94:503-4.
110. Casamajor L. William Creighton Garvin, 1873-1942. *J Ment Nerv Dis.* 1942;96:116-7.
111. Casamajor L. Smith Ely Jelliffe (1866-1945). *Arch Neurol Psychiatry* 1945;54:301-2.
112. Casamajor L. Christopher Charles Beling, M.D. 1873-1946. *Arch Neurol Psychiatry.* 1947;57:233.
113. Casamajor L. Samuel Torrey Orton 1879-1948. *Am J Psychiatry.* 1949;105:640.
114. Casamajor L. C. Charles Burlingame, M. D. 1885-1950. *Arch Neurol Psychiatry.* 1950;64:882-3.
115. Casamajor L. Oliver Smith Strong, Ph.D. 1864-1951. *Arch Neurol Psychiatry.* 1951;65:658.
116. Casamajor L. Samuel Warren Hamilton (1878-1951). *Arch Neurol Psychiatry.* 1952;67:131-2.
117. Baughman R. Our growing collections. *Columbia Library Columns.* 1963;13:33-50.