

A Watch Backward**FRANCISCO MONTBRUN (1913-2007): OUTSTANDING VENEZUELAN ANATOMIST****Lilian Cruz¹, Rafael A. Romero-Reveron²**¹*Department of Physiology, Faculty of Medicine, Central University of Venezuela, Caracas.*²*Department of Anatomy, Faculty of Medicine, Central University of Venezuela, Caracas, Bolivarian Republic of Venezuela***ABSTRACT**

Francisco Montbrun (1913-2007), an outstanding anatomist, was Professor of Anatomy for 64 years at the *Universidad Central de Venezuela (UCV)* from 1937 to 2001, and founder of the "José María Vargas" School of Medicine and its Human Anatomy Department in 1960. A renowned surgeon, he worked at *Hospital Vargas* in Caracas and was a Professor of Surgery for 23 years at *Facultad de Medicina, UCV*. He mentored several generations of anatomists, physicians, surgeons, and university professors. Montbrun was appointed honorary professor. He held important management, representative and administrative positions at the Central University of Venezuela and the Venezuelan government. He wrote textbooks of anatomy and neuroanatomy, published research papers, and introduced surgical techniques in Venezuela. He contributed greatly to improve the teaching and development of anatomy and neuroanatomy, and the medical studies in Venezuela. During his extensive and productive public, medical and academic career, Montbrun received multiple awards and acknowledgements. He was an Individual of Number of the National Academy of Medicine and Minister of Health.

Keywords: *Human Anatomy; Central University Venezuela; anatomical studies, medical education; surgeons; history*

RESUMEN

Francisco Montbrun (1913-2007), destacado anatomista, fue Profesor de Anatomía durante 64 años en la Universidad Central de Venezuela (UCV), desde 1937 hasta 2001, y fundador de la Escuela de Medicina "José María Vargas" y de su Cátedra de Anatomía Humana en 1960. Renombrado cirujano, trabajó en el Hospital Vargas de Caracas y fue Profesor de Cirugía durante 23 años en la Facultad de Medicina de la UCV. Formó varias generaciones de anatomistas, médicos, cirujanos y profesores universitarios. Fue designado Profesor Honorario.

Desempeñó, importantes funciones administrativas, gerenciales y representativas en la Universidad Central de Venezuela y en el gobierno nacional. Escribió libros de anatomía y neuroanatomía, publicó trabajos de investigación e introdujo técnicas quirúrgicas en Venezuela. Contribuyó de manera significativa a mejorar la enseñanza y el desarrollo de la anatomía y la neuroanatomía, y los estudios de medicina en Venezuela. Durante su extensa y productiva carrera en el sector público, en la academia y en la medicina, Montbrun recibió numerosos premios y reconocimientos. Fue Individuo de Número de la Academia Nacional de Medicina y Ministro de Sanidad y Asistencia Social.

Palabras Clave: *anatomía humana; Universidad Central de Venezuela; estudios anatómicos; educación médica; cirujanos; historia*

INTRODUCTION

The study of medicine in Venezuela began on October 10, 1763, at the *Real y Pontificia Universidad de Caracas*, 42 years after the founding of the university in 1721. Venezuela was a Spanish colony. The Spanish physician, Dr. Lorenzo Campins y Ballester, was the first professor of medicine. José Francisco Molina, who graduated in 1775, was the first Venezuelan medical doctor. The Royal and Pontifical University of Caracas became the Central University of Venezuela in 1826 by decree of the Liberator, Simon Bolivar, and the Caracas Medical Faculty was founded by him in 1827 (Bruni-Celli, 1958).

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Dr. José María Vargas started the study of anatomy and anatomic dissections at the Caracas Medical Faculty on 1827. He taught human anatomy courses for more than twenty-five years. In 1838, he wrote "Course of Anatomical Lessons and Demonstrations", the first book for the teaching and learning of human anatomy to be printed in Venezuela. During the second half of the nineteenth century, medical studies continued in the prevailing adverse socio-economic conditions and hostilities until a new period of progress began in the twentieth century with teachers of anatomy and surgery such as Pablo Acosta Ortiz, Luís Razetti, José Izquierdo, Francisco Montbrun and others (Bruni-Celli, 1958). The aim of this paper is to present a brief review of the contributions made by Francisco Montbrun (Fig.1) to human anatomy, surgery, and medical education in Venezuela during his long professional career.



Figure 1- Francisco Montbrun (1913-2007).

HISTORY

Childhood and education

Francisco Antonio de Jesús Montbrun Ríos was born at Caracas, December 27, 1913, to Domingo Montbrun Betancourt, a Bank

employee, and Carmen Ríos Ojeda de Montbrun. He had three sisters and two brothers. In those days, Caracas, the capital of Venezuela, was a town with a population of 85 000 and few buildings other than colonial-style houses. People travelled mainly on foot, horse-drawn carriages, electric trams and by rail. The country's population was 2.3 million, 75% of them were illiterate, 80% rural, and the agricultural production techniques were rudimentary. Oil production had barely begun, the oil boom and concomitant improvement of economic indicators were still a long way off. Francisco Montbrun, whose family was not wealthy, did piece work, among other things, as a horse tamer, a skill he had learned in his early years on the farm of his maternal grandfather, Felix Rios, and later on, as a medical student, by going to patients' houses to give injections (Cruz, 2020).

Francisco Montbrun graduated Bachelor in Philosophy in 1930 and went on to study medicine at the Central University of Venezuela. Among his professors were eminences such as Luis Razetti and José Izquierdo. Montbrun did his internship from 1934 to 1936 at the Vargas Hospital and at the Venezuelan Red Cross Hospital in Caracas. Before graduating in 1936, he was a histology instructor for two years, from 1934 to 1936. He graduated Summa Cum Laude as a Doctor of Medical Sciences in 1936. His doctoral thesis entitled "Normal knee joint mechanics-Traumatology of the meniscus of the knee" was acknowledged as the best thesis of his class. His mentor was Dr. Hernán de Las Casas, a pioneer in the field of Trauma and Orthopedic surgery in Venezuela. Soon after he got his medical degree, he became a resident surgeon at the Vargas Hospital in Caracas for three successive periods, from 1937 to 1943. Dr. Montbrun held the position of operating-theater director at the Vargas Hospital in Caracas from 1937 to 1939. He graduated as a general surgeon in 1939 (Cardozo de Abreu, 2007; Cruz, 2020; Romero-Reverón 2014).

Post-graduate medical training

In March 1939, Francisco Montbrun obtained a scholarship from the Venezuelan Ministry of Education to study surgery, gynecology and anatomy in Paris, France. He learned surgery under the guidance of professors Jean Braine and Judet. He studied gynecology at the Broca Hospital with Professor Moucquot and did anatomy studies and anatomical research with Professor Henry Rouviere in the department of Anatomy at the University of Paris. He trained in anatomical drawing with Professor of Fine Arts Armand Moreau, who made the drawings for the "Treatise of Human Anatomy" by Dr. Rouviere. Because of the Second World War, Francisco

Montbrun left France for the United States of America. Under the auspices of the Rockefeller Foundation, he went to the Yale University Department of Anatomy, to learn and teach general anatomy, neuroanatomy, and neurophysiology, under the direction of Dr. Edgar Allen, from October 1939 to May 1940. At Yale he took a neuroanatomy specialization course given by Dr. Ralph G. Meader. Montbrun attended courses in emergency surgery and war surgery at the Graduate Hospital of Philadelphia, University of Pennsylvania, from March to August 1944, partly supported by a Lilly Foundation Fellowship. Subsequently, he learned several surgical techniques at the Rawson Hospital and the Clinical Hospital in Buenos Aires, Argentina in 1947 (Cardozo de Abreu, 2007; Cruz, 2020; Romero-Reverón, 2014).

Career as an anatomist

Montbrun's career as an anatomist started when he won a competition for a post as Chief of Practical Works in the Department of Topographic Anatomy at the medical school in the Central University of Venezuela. He held that post from 1937 to 1940. He was Professor of Anatomical Technique from 1940 to 1946, appointed by the Faculty Council. His promotion to Associate Professor of Descriptive and Topographic Human Anatomy occurred in 1946

and to Full Professor in 1955. In October 1953 he was named Chief of the Faculty of Descriptive and Topographical Human Anatomy. Simultaneously, he was Director of the Anatomical Institute of the Central University of Venezuela during two periods: 1944-1948 and 1955-1959. As a founder of the "José María Vargas" School of Medicine and its Human Anatomy Department, Dr. Francisco Montbrun taught the first class of human anatomy on November 17, 1960. It was the inaugural lecture of the new school. He was Chief of the Faculty of Human Anatomy and Chief of the Department of Morphological Sciences from 1960 to 1976 at the Vargas School. He continued teaching anatomy until his retirement in 2001. In summary, his Human Anatomy professorship at the Central University of Venezuela is divided in two time lapses: from 1937 to 1960, 23 years, in the first school of medicina, now named "*Escuela de Medicina "Luis Razetti"*", and from 1960 to 2001, 41 years, at the Vargas School, for a total of 64 years, being an exceptional case in the history of the Medical Faculty. On May 22, 2003, the University awarded him the title of Honorary Professor. He was also named an honorary member of the Pan American Anatomy Association in 1995.

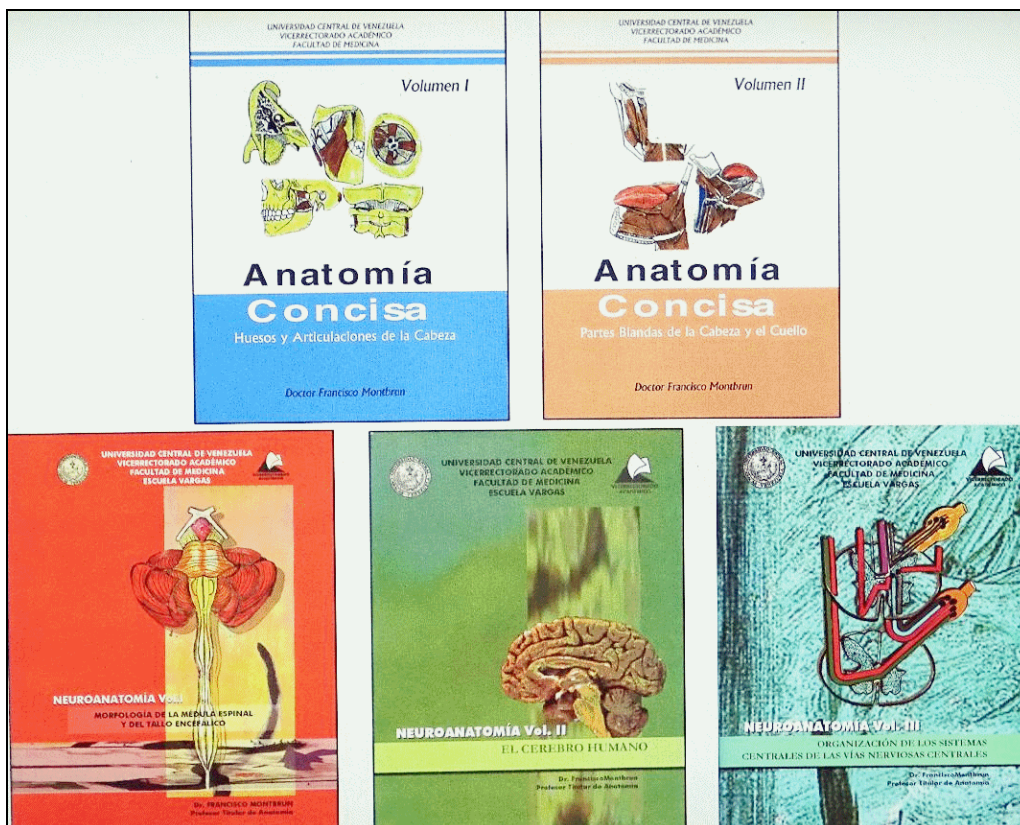


Figure 2- Montbrun's books.

Contributions to the study of human anatomy

Starting in 1941 and continuing until 2001, he improved and indexed neuroanatomy studies in Venezuela, using a basic functional concept and topographic organization, applying the analysis of vertical-transverse and horizontal sections of the brain and spinal cord. He wrote 27 multi-focused syllabi (several editions of twelve issues, covering the entire anatomy), between 1949 and 1990. They were presented as *"an atlas, with the text on the left and the figures on the right, to make learning very objective, because the student always has a figure in sight; of low cost for the student and ready adaption to the evolution of knowledge"* (Cruz, 2020).

Dr. Francisco Montbrun published the following books on human anatomy: Concise Anatomy Volume I: Bones and Head Joints 1999. ISBN: 980-001375-X, Concise Anatomy Volume II. Soft Parts of the Head and Neck. 1999. ISBN: 980-00-1374-1, Neuroanatomy Volume I: Morphology of the Spinal Cord and Encephalic Stem. 2000. ISBN: 980-00-1650-3, Neuroanatomy Volume II: The Human Brain 2000 ISBN: 980-00-1651-1, Volume Neuroanatomy (Fig. 2).

Other contributions were: the introduction of new methods for the preservation of cadaveric material; the design and manufacture of stainless steel dissection tables, where the body was permanently stored, and which incorporated a hydraulic lifting mechanism to expose the corpse when required for dissection or demonstration; the introduction of audiovisual techniques for teaching with the projection of color slides in association with manual drawings on the blackboard, using colored chalks to highlight the various anatomical planes. He drew and photographed many of the slides. His anatomical drawings were greatly admired. Many generations of medical students enjoyed his wonderful lectures, his anatomical drawings, his masterful anatomical dissections, and his textbooks (Cardozo de Abreu, 2007; Torres, 2008).

Career as a surgeon

In 1944, he was selected for the position of Second Deputy, and in 1945 for First Deputy of the department of Surgical Therapeutics at the Vargas Hospital, by competitive procedures. He was also Professor of the Therapeutic Surgical Clinic from 1944 to 1946 at the school of medicine. Later, in 1946, he was appointed Professor of the Department of Surgical Pathology, for one year, and Chairman of the Department of Surgical Therapeutic Clinic, a position he maintained from 1946 to 1966. Dr. Montbrun worked at the Vargas Hospital for 30 years, and for 23 years he taught courses in surgery and was responsible for the training of many generations of physicians and surgeons.

His surgical teaching emphasized the preservation of the vital elements of each surgical region, and the preservation of organic functions as much as possible, and he made a point of doing anatomical surgery himself. Montbrun had extraordinary manual dexterity in the treatment of tissues, and accuracy in locating anatomical elements, such that he gained a reputation of carrying out operations that were clean, easy, and decisive, of optimum benefit to patients, and indubitably masterful demonstrations for all the surgeons who trained under him (Cruz, 2020).

In 1947, Dr. Montbrun was a founding member of the *Centro Medico de Caracas*, a private hospital where he practiced general and gynecological surgery until 1988 (Cruz, 2020; Krivoy, 2013). He introduced surgical techniques to Venezuela such as vaginal hysterectomy, which he had learned in Buenos Aires, and its combination with the operative cure of genital prolapse, uterinopexy, transplanting the round ligaments to pecten, trachelectomy, tracheloplasty, colpo-perineoplasty and others, which he passed on to his students.

He was a founding member of the Venezuelan Society of Surgery in 1944, its president from 1959 to 1961, and honorary member since 1982; Montbrun was also a member of the International Society of Surgery, the Venezuelan Society of Gastroenterology, the International College of Surgeons, a fellow of the American College of Surgeons, president of its Venezuelan Chapter (1971-1972), honorary Member of the Latin American Federation of Surgery and its Executive President from 1989 to 1991 (Cruz, 2020).

Administrative and leadership positions

During his extensive and productive career as university professor, he held positions in many committees and was very influential in his institution. In 1940 he participated in the commission that studied and planned the building of a new campus, *la Ciudad Universitaria de Caracas*. He also sat in the Drafting Commissions of the Central University of Venezuela Statute in 1946 and its Regulations in 1948. Dr. Montbrun was an advisor for the construction of the "José Izquierdo" Anatomical Institute in the new university campus, the University City, in 1949. The builder was Dr. Armando Vegas. The Schaeck company was hired to manufacture the dissection tables designed by Dr. Montbrun and his collaborators, Dr. Hernán Quintero Uzcátegui and Antonio Morín, a mechanic. Dr. Montbrun was a member of the Council of the Faculty of Medicine, and President of the Admissions Committee of the Faculty of Medicine from 1955 to 1960.

In the fifties Venezuela had three medical schools: one at *Universidad Central de Venezuela* (1827) in Caracas, one in *Universidad de Los Andes* (1810) in Mérida, and one at *Universidad del Zulia* (1891) in Maracaibo, but there was a deficiency in the number of physicians. By the end of the 1950s new medical staff and facilities were required in the country. Starting in 1956, Dr. Montbrun was a leader in a group of professors that promoted the creation of a new school of medicine and the reform of medical studies at UCV. Their names (in alphabetical order) were Blas Bruni Celli, Eduardo Carbonell, Fernando Rubén Coronil, Francisco Kerdel Vegas, Francisco Montbrun, Jacinto Convit, Luis Manuel Manzanilla, and Otto Lima Gómez. The Faculty of Medicine Council appointed a Planning Commission that included the Dean, Rafael José Neri, José Ignacio Baldó, Fernando Rubén Coronil, Francisco Montbrun, Alfredo Borjas and Otto Lima Gómez. In 1960, the second school of medicine of the Central University of Venezuela was founded. It was named *Escuela de Medicina "José María Vargas"*. Francisco Montbrun moved from the Anatomical Institute at the University City campus and the old medical school to the "José María

Vargas" School of Medicine. From 1960 to 1976 he was member of the School Council. He was an advisor to engineers and architects for the construction of the two basic sciences buildings for the new school and helped to get resources for it (Montbrun, 1992; Cruz, 2019). He was member of UCV's Electoral Commission (1959-1965) and its president (1965-1967), president of the Commission of Undergraduate Studies of the Faculty of Medicine (1965-1972) and president of the Medical Faculty Committee for Student Affairs (1972-1976).

Francisco Montbrun was a Minister of Health and Social Assistance from October 1987 to February 1989; he implemented a series of policies to improve public health care in Venezuela.

In the light of his long and meritorious career, Dr. Francisco Montbrun was elected National Corresponding Member of the Venezuelan National Academy of Medicine in 1987 and promoted to Individual of Number in June 1995. Montbrun published 74 scientific papers, 27 anatomy syllabi, 5 anatomy books, 2 books on public health policy: "A Strategy for a Health System" and "Venezuela, a View of Health, 1984-1988", and 37 other publications.



Figure 3- Montbrun's acknowledgments.

DISCUSSION

Dr. Francisco Montbrun was a brilliant student, an excellent professor of anatomy and surgery, and a teacher and mentor of several generations of anatomist, physicians, surgeons, and university professors. He was a renowned surgeon at the Vargas Hospital and the Caracas Medical Center, a founder of the Vargas Medical School and its Human Anatomy Department in the Central University of Venezuela. He worked 23 years as a professor of surgery, 64 years as professor of anatomy, and was appointed honorary professor. Montbrun occupied important management, representative and administrative positions. He participated in several processes of reform of medical studies in Venezuela and in the drafting of university norms and regulations. He was a consultant in the construction of medical equipment and buildings, wrote textbooks of anatomy and neuroanatomy, published research papers, and introduced surgical techniques in Venezuela. For his dedication and personal qualities, he won the admiration and the recognition of students, patients, and institutions (Cruz, 2020; Romero-Reverón, 2014). Dr. Montbrun was awarded multiple national and international prizes and acknowledgements, including 35 decorations and many honorary merit diplomas (Avilán-Rovira, 2005; Cruz, 2020) some of which are shown in Figure 3. In his honor, the dissection room, and the East Auditorium of the Basic Sciences II building of "José María Vargas" School of Medicine were named after him in 1987 and 2001, respectively. In his private life, Montbrun loved travels, sports, outdoor walks and enjoyed sharing family life. He married three times, had two children and four grandchildren. Francisco Montbrun died in his home in the bosom of his loved ones at the age of 93, on May 15, 2007 in Caracas, Venezuela. His legacy will remain as an inspiration for the medical profession in Venezuela and as a stimulus in our constant process of learning and teaching human anatomy at the *Escuela de Medicina "José María Vargas", Universidad Central de Venezuela* (Cruz, 2020; Romero-Reverón, 2014).

Conflict of Interest

No conflict of interest was present

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Not required

Informed Consent

Not applicable

Contributions

LC: Data acquisition, drafting manuscript, revision of final manuscript RRR: Planning, drafting manuscript, submitting manuscript.

REFERENCES

- Avilán-Rovira J.M. 2005. Vida de la ANM. *Gac Méd Caracas*.113: 446-47.
- Bruni-Celli B. 1958. Historia de la Facultad Médica de Caracas. *Rev Soc Ven Hist Med*. 16-17: 1-387.
- Cardozo de Abreu A. 2007. Biografía. Dr. Francisco Montbrun Ríos. *Maestro de Maestros*. URL:<https://vitae.ucv.ve/?module=articulo&rv=16&n=409&m=1&e=857> (accessed March 2020).
- Cruz L. 2019. Aspectos de la Historia de la Escuela de Medicina Jose Maria Vargas. URL:https://www.researchgate.net/publication/337472811_Lilia_Cruz_Aspectos_de_la_HISTORIA_DE_LA_ESCUELA_DE_MEDICINA_JOSE_MARIA_VARGAS (accessed April 2020)
- Cruz L. 2020. Vida, Obra y Anécdotas del Dr. Francisco Montbrun Ríos, Universitario Integral. URL: https://www.researchgate.net/publication/340539186_Vida_obra_y_anecdotas_del_Dr_Francisco_Montbrun_Rios_Universitario_Integral. (accessed April 2020).
- Krivoy A. 2013. A los cien años de su nacimiento fueron homenajeados tres Académicos, miembros del Centro Médico de Caracas: Francisco Montbrun, Otto Paz Joly y Joel Valencia Parpacén. URL: <https://www.revistacentromedico.org/ediciones/2013/2/art-6/> (accessed March 2020)
- Montbrun F. 1992. Apuntes para la historia de la Escuela "José María Vargas". *Rev Fac Med*.15: 143-149. (accessed April 2020).
- Romero-Reverón R. 2014. Dr. Francisco Montbrun y sus aportes al estudio de la Anatomía. URL: <http://revista.svhm.org.ve/ediciones/2014/1/art-3/> (accessed January 2020).
- Torres I. 2008. Un agradecido adiós al Maestro Francisco Montbrun. URL: <https://vitae.ucv.ve/?module=articulo&rv=14&n=555> (accessed January 2020).