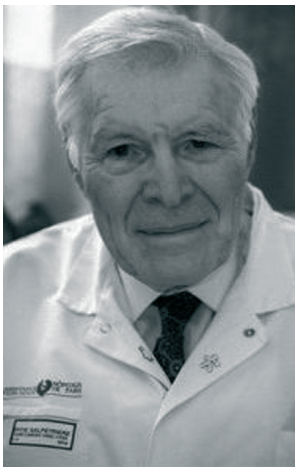

Christian Cabrol: Cardiac Surgeon, University Professor, and Politician

Christian Emile Cabrol, pioneer of cardiac, cardiopulmonary, and artificial heart transplantation in Europe, passed away at the age of 91 in the early morning of June 16, 2017, in the hospital to which he dedicated his professional life.

He was born on September 16, 1925, in Chezy-sur-Marne, Aisne. He studied Medicine at the School of Medicine in Paris. In 1949 Cabrol was resident in the Hospitals of Paris, and in 1951, he joined the Department of Surgery of Professor Gaston Cordier, a visionary leader that encouraged him to become interested in cardiopulmonary surgery.

In 1956, he went to the University of Minnesota, Minneapolis, and was part of the Department of Cardiac Surgery under Walton Lillehei -the father of open heart surgery. In that university, Norman Shumway, who later worked at Stanford University, Christian Barnard, who returned to South Africa, and Christian Cabrol, who returned to Paris, shared their training. The three Walton Lillehei's students wrote the history of heart transplantation.

In 1960, Cabrol returned to the Hôpital Pitié-Salpêtrière, where he held the following posts: Surgeon at the Hospitals of Paris (1961-1993), Professor without chair (1964), and later Professor at the School of Medicine in Paris (since 1964), Professor of Anatomy (1965-1993), Assistant Professor of the Aggregate Professor Mercadier (1965), Chief of the Department of Surgery Consultation (1969) and Chief of the Department of Cardiac Surgery (1972-1990) at the Hôpital de la Pitié, and Consultant (1990-1993).

Christian Cabrol performed Europe's first heart transplantation on April 27, 1968. This transplantation was the result of the enthusiasm caused by the one performed by Christian Barnard in December 1967, his fellow at the University of Minnesota. During the Journey across the Dessert, which took place from 1969 to 1978, only four hospitals sustained the program: Stanford University, the Groote Schuur Hospital of South Africa, the Hôpital Pitié-Salpêtrière, and the University of Richmond in Virginia. These four centers managed to keep the fire burning and made it possible to renew the interest in transplantation, coinciding with the discovery of the immunosuppressive properties of cyclosporine A. Christian Cabrol also performed the first heart-lung transplantation in Europe, on March 9, 1982, the same year Bruce Reitz and Norman Shumway described the technique and performed the first case at Stanford University. This circle closes with Europe's first total artificial heart implantation, Jarvik 7, implanted on April 10, 1986.

This track record turned Christian Cabrol into the second world authority on heart transplantation. However, his scientific contribution is not limited to the area of cardiac transplantation. Cabrol described, before De Vega's publication on annuloplasty, a similar technique of tricuspid annuloplasty, the ascending aortic aneurysm repair with reimplantation of the coronary arteries, which became the technique of choice in many hospitals, and made contributions to combined coronary and valve surgery and to treatment of chronic pulmonary embolism. To his strictly scientific publications on cardiovascular surgery, it is necessary to add his publications as communicator.

In addition to his hospital and university tasks, he sustained many positions at the service of all people. He was founding member and president of the ADICARE association (Association for the Development and Innovation in Cardiology) (1990-2015). He was assigned to missions by the Ministry of External Affairs of France (since 1993), he was President of

the National Food Council (1996-1999), President of France Transplant, President of the International Society of Heart Transplantation, Honorific President of the European Society of Heart Transplantation, and President of the Administrative Board of Sainte Anne Hospital (1989-2001).

His political career at the end of his professional stage adds to his scientific activity: European member of Parliament (1994-1999), Paris City Hall Councilor (1989-2008), and Assistant to the Mayor in charge of issues related to food hygiene (1996-2001). This ceaseless scientific and political activity made him worthy of honors and distinctions: Commander of the Order of the Legion of Honor, Officer of the National Order of Merit, member of the National Academy of Surgery (1970), National Academy of Medicine (1998), Institute of France (Academy of Sciences), National Academy of Brazil (2009), and the Claude Bernard award from the city of Paris, among others. This recognition crossed the academic and scientific boundaries to a social dimension: Christian Cabrol gives his name to streets, cultural spaces, sports centers, and museums such as the Museum of Surgical Science in Myennes.

He trained more than 50 specialists, and many of them became internationally renowned surgeons who made significant contributions to surgery. Such is the case of Iradj Gandjbakhch and Alain Pavie, who inherited the Direction of the Department of Surgery at the Groupe Hospitalier La Pitié Salpêtrière, or Alberto Domenech, who returned to Hospital Italiano in Buenos Aires. His disciples agree that Christian Cabrol had all the features of a true Leader: he passed not only his knowledge to others with generosity but also his attitude and way of life. All his patients and everyone who worked with him agree that he was very human and close to his patients. Regarding his burts of genius or anger, Gandjbakhch said they included a great dose of comedy when it suited him.

Christian Cabrol has been a key surgeon in the history of cardiac surgery. He belongs to that very small group that, with great audacity and cleverness, turned cardiac surgery into a mature specialty. Professor Christian Cabrol is a scientific, attitudinal and behavioral example of life for today and future generations of cardiovascular surgeons.

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