



La lettre du Collège de France

8 | mars 2014
Collège de France Newsletter n°8

Special Report on Claude Bernard

Pierre Corvol



Electronic version

URL: <https://journals.openedition.org/lettre-cdf/2039>

DOI: 10.4000/lettre-cdf.2039

ISSN: 2109-9219

Publisher

Collège de France

Printed version

Date of publication: 1 March 2014

Number of pages: 56-59

ISSN: 1628-2329

Electronic reference

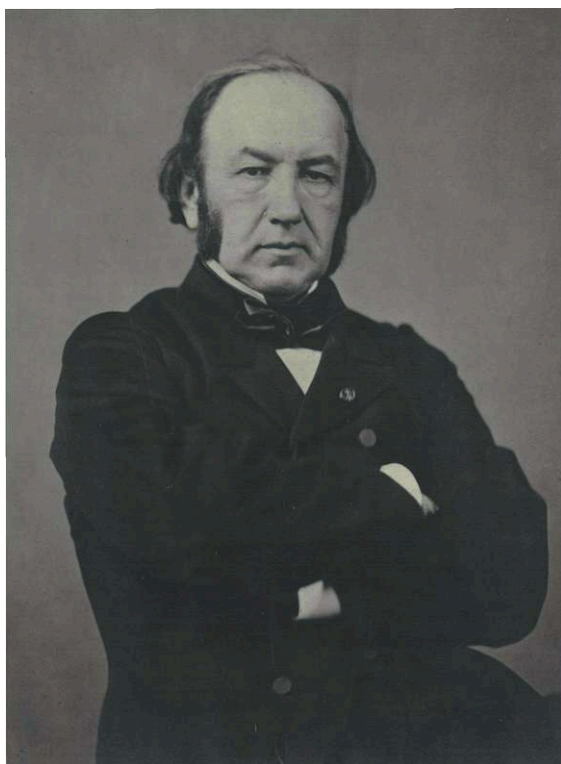
Pierre Corvol, "Special Report on Claude Bernard", *La lettre du Collège de France* [Online], 8 | mars 2014, Online since 12 August 2015, connection on 17 August 2022. URL: <http://journals.openedition.org/lettre-cdf/2039> ; DOI: <https://doi.org/10.4000/lettre-cdf.2039>

This text was automatically generated on 17 August 2022.

All rights reserved

Special Report on Claude Bernard

Pierre Corvol



- ¹ To celebrate the bicentenary of Claude Bernard's birth, the *Collège de France Newsletter* looks back on an important figure of the institution, and the theoretician behind a vast epistemological tradition ranging from experimental medicine to the philosophy of science. By revolutionizing the approach to life forms, which he took from a blurry vitalism to a rational conception of life, Claude Bernard gave both medicine and biology their method, founded on physiological experimentation.

Claude Bernard and Experimental Medicine at the Collège de France

- 2 **We are celebrating the bicentenary of the birth of Claude Bernard, professor of the Collège de France for 23 years.**
- 3 Bernard was appointed Chair of Medicine in 1855, a position he was to hold until the year of his death, in 1878. In fact, his presence at the Collège de France extended over more than three decades. As a young man, disappointed with his aborted career as a playwright, he left his birthplace in the Beaujolais for Paris, and discovered the Collège de France in 1841. As a simple 28-year-old medical student, he worked as the assistant of François Magendie, then Chair of Medicine, from 1841 to 1844. He obtained his PhD in medicine in 1843, and was already working successfully on the nervous control of gastric secretion. Appointed as Magendie's replacement professor in 1847, he was entrusted with the laboratory and the Chair of Medicine of the Collège de France when Magendie retired in 1852. He became the holder of the Chair in 1855. Later, as a tribute to his contributions and his influence, the name of the Chair was changed to "Experimental Medicine". Antoine Lacassagne was its first holder, from 1951.

Experimental Medicine at the Collège de France

The Chair of Experimental Medicine provides the unique example, at the Collège de France, of a Chair that is not only directly linked to a personality, but that also has a remarkably permanent title, as it has carried the same name since 1951. In 1951, Antoine Lacassagne turned the Chair of Medicine into the Chair of Experimental Medicine, both in the tradition of Claude Bernard and in keeping with his own teaching, as he was first appointed as Chair of Experimental Radiobiology in 1941 and worked on cancer research. From the beginning of his career, the research he carried out in radiobiology was at the frontier of experimental medicine. Hence, when the Chair of Medicine was freed up upon René Leriche's retirement, he naturally succeeded to him, bringing in this new title.

Professors who have held the Chair of "Experimental Medicine"

Antoine LACASSAGNE (1951-1954), Charles OBERLING (1955-1960), Bernard HALPERN (1961-1975), Jean DAUSSET (1977-1987), Pierre CORVOL (1989-2012)

- 4 It was to François Magendie (1783-1855) that Bernard owed his orientation towards physiological experimentation, a calling to which he dedicated not only his entire career but also his life, as he worked relentlessly. Bernard was responsible for spectacular advances in this discipline. His first steps at the Collège de France taught him just how valuable a tool animal vivisection was to understand life forms. Magendie considered him to be "better than him" at the experimental level, and encouraged him by showing him that experimental facts served to dismantle the false doctrines and empirical minds that Bernard was forever denouncing. This is the Claude Bernard who is of interest to us here at the Collège de France, not the Academician, the Senator or the Sorbonne professor.



Léon Lhermitte, *Claude Bernard's Lesson*, 1889, ARR

5 A life of discoveries

- 6 From 1843 to 1860, Bernard made multiple discoveries, essentially about digestion, the glucidic metabolism, the nervous system and circulation. This list is actually far from exhaustive, so great was his scientific curiosity about any new physiological question.
- 7 Some of his most significant original contributions concerned: the role of sugar in the animal and human organism (including the famous theory of the liver glycogenetic function in 1848), the control of glycaemia by the central nervous system (1848), the “washed liver” experiment which reveals the *post mortem* production of sugar in the liver (1855), the discovery of *glycogen* (1855) and its isolation (1857), the presence of sugar in cerebrospinal liquid (1855), and the production of heat in animals and its regulation (1859). It is important to remember that the most widely accepted theory at the time was that sugar came from diet and that it was destroyed by combustion phenomena, particularly during breathing. Bernard quickly observed that the blood and liver of animals contained sugar even when their diet did not. Starting from the hypothesis that the liver was the organ that produce sugar in the organism and not the one

AUTHOR

PIERRE CORVOL

Emeritus Professor, Experimental Medicine from 1989 to 2012 and *Administrateur* of the Collège de France from 2006 to 2012