

C 2.4. COMMUNICATION – FULL ARTICLE

Extra-scientific Factors in the Awarding of the Nobel Prize in Physiology or Medicine: The Case of Jaume Ferrán

Ferran Sabaté ¹

¹ Societat Catalana Història de la Medicina

✉ drsabate@yahoo.es



This work is licensed under CC BY-NC-ND 4.0. To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc-nd/4.0>

ABSTRACT: The undeniable prestige of the Nobel Prizes is sometimes seen as scientifically unjustified or lacking in merit compared to the work and medical and social impact of other nominated candidates. Dr. Jaume Ferran i Clua, a pioneer in the experimental study of the bacteriology of infectious diseases, a driving force behind laboratory medicine, and the creator of the first human vaccine against cholera in 1885, as well as against other serious contagious diseases, is a striking example of this apparent devaluation. He was nominated for the Nobel Prize in Physiology or Medicine six times during the second decade of the 20th century, without receiving it. We analyze the possible non-scientific reasons that contributed to the rejection of this deserving candidate.

KEYWORDS: Nobel Prize of Physiology; Dr. Jaume Ferran; Extra-scientific factors.

INTRODUCTION

The Nobel Prize in Medicine or Physiology was established by Swedish chemist and businessman Alfred Nobel (1833-1896), inventor of dynamite. In his will, he bequeathed his entire fortune to create and fund the Nobel Prizes. He was a member of the Royal Swedish Academy of Sciences (1884) and an honorary doctor of the University of Uppsala (1893). Together with his brothers, he founded an oil company in Azerbaijan and Turkmenistan.

Thanks to dynamite and oil, he amassed a great fortune. In 1895, in the Swedish-Norwegian Club in Paris, Nobel drafted his will, specifying that the Swedish state should establish the Nobel Prize after his death, to be awarded without distinction of nationality to individuals who had shown excellence in their life and work in one of the awarded fields. These were: literature, physics, chemistry, physiology or medicine, and peace. Later, the economics category was added. These prizes have enjoyed worldwide prestige, and their recip-

ients have received international recognition throughout the 20th century.

However, the fact that the evaluation of merits and the choice of winners is surrounded by secrecy and a lack of transparency has raised doubts about the suitability of some of the recipients and about the honesty and independence of the evaluating committee or its members. In an objective evaluation of all Nobel Prizes awarded to date in different fields of knowledge and culture, we find indisputable figures alongside others with questionable merits, and even cases of deceit. Moreover, the presumed objectivity and independence of the Nobel Committee are not reflected in the list of awardees. There is an evident bias: gender, nationality, ideology, language, opportunism, etc. In some cases, the Nobel Committee's decisions seem to have been influenced by issues of a circumstantial, cultural, ideological, linguistic nature, personal sympathies of its members, external pressures, ignorance, etc.



THE CASE OF JAUME FERRÁN I CLÚA (1851-1929)

This Catalan physician and scientist from the late 19th and early 20th centuries made notable contributions to the understanding of several microbes causing infectious and contagious diseases, such as cholera, typhus, diphtheria, tuberculosis, plague, rabies, and influenza. He was a pioneer in bacteriology and virology and one of the initiators of "laboratory medicine." He became acquainted with the ideas and works of Pasteur through the journal *Comptes rendus de l'Académie des Sciences* in the private library of his friend, astronomer and geologist J.J. Landerer, in Tortosa. He formulated the concept of "primary prevention" of infectious diseases through vaccination and serum therapy.

In 1884, a cholera epidemic broke out in France, in the regions of Marseille and Toulon. Ferrán was commissioned by the Barcelona City Council to travel to the Hospital del Faro to study the causes and evolution of the cholera outbreak, as well as its potential prevention and treatment. After spending several weeks there (with his collaborator Innocent Pauli), Ferrán returned with samples of vomit and feces from patients who were ill or had died. In the following fall and winter, he began experimenting with laboratory animals, testing the attenuation of the causative agent and its effects on humans. These trials were published and disseminated through monographs in German, Spanish, French, and Italian.

In the spring and summer of 1885, the cholera epidemic spread with particular virulence in the Levante region of Spain. At this point, the Valencian physician and politician Amalio Gimeno, who knew of Ferrán's work, traveled to his laboratory in Tortosa and conveyed an invitation from the Governor of Valencia for Ferrán to go to the most affected areas and begin a vaccination campaign, without any public financial support. Together with his collaborator Innocent Pauli, Ferrán traveled to the most affected areas and initiated a private cholera vaccination campaign. This led to a significant reduction in morbidity and mortality among those exposed and vaccinated, as confirmed by bio-statistical records.

This new preventive approach, through cholera vaccination, to address the collective epidemic problem, sparked the interest and enthusiasm of some doctors and media, but also provoked rejection and opposition from others. This scientific controversy reached society, becoming a political, economic, ideological, journalistic, and even parliamentary battle.

This scientific, ideological, and even personal conflict pitted the defenders of tradition against the proponents of innovation. Medically, it was a battle between the "miasmatic" theory and Pasteur's microbial ideas. Socially, it was a struggle between the "fixists" and the "evolutionists." Politically, it was a divide between liberals and conservatives. Economically, it was a conflict between proponents of isolationist measures (cordon sanitaires, lazarettos, etc.) and those in favor of vaccination.

A key figure in this dispute was future Nobel Laureate Santiago Ramón y Cajal, who, at that time, was Professor of Anatomy at the University of Valencia. Cajal and Ferrán had previously met in Zaragoza and shared an interest in drawing and photography. What is surprising is Cajal's change of attitude towards Ferrán and the cholera vaccine. Although Cajal had initially been vaccinated by Ferrán in Valencia in 1885, during his vacation in Aragón that year and after being commissioned by the Provincial Council of Zaragoza to report on cholera vaccination, he became an ardent critic of the validity and safety of the preventive method, raising doubts about Ferrán's motivations.

The negative report from the French Commission, composed of doctors Brouardel, Charrin, and Albarran, also gained international attention. The commission was skeptical of the vaccine preparation methods and did not appreciate the positive results of its application. It seems that during the meeting between the French Commission and Ferrán, there were some misunderstandings and tensions on both sides. While the commission showed mistrust of Ferrán's method, he refused to provide more details about his vaccine's preparation process. This friction led to the unfavorable report presented by the French Commission.

In the Spanish medical community, a bipolarization occurred between staunch supporters and fierce detractors of what was the first human bacterial vaccine, which contradicted the miasmatic theory and opened the door to the new field of preventive medicine. The academies and professional journals also took sides in the debate over the novelty of the vaccine, issuing contradictory judgments.

The journalistic controversy was significant, reaching general newspapers, with maximalist and intransigent positions on both sides. The discussion even made its way into the Spanish Congress, with opposing arguments between liberals and conservatives, but no public funding for the vaccine.



Economics also played a significant role in this controversy. The sanitary barriers or quarantines applied during epidemics severely affected trade, as well as agriculture, with proponents of vaccination seeing it as a solution to these economic challenges.

A MISSED NOBEL PRIZE

Jaume Ferrán y Clúa was the first Catalan scientist nominated for the Nobel Prize in Physiology six times. The first three nominations were in 1911, 1912, and 1913, before World War I. Later nominations came in 1915, during the war, and in 1920 and 1921, when the benefits of cholera vaccination were well known, as it had been used effectively by most of the warring armies, along with vaccines for rabies, typhus, tetanus, and plague, improved by Ferrán. The nominators were: Prof. Nicolás Fuente Arrimadas of Valladolid (1911); Prof. Rafael Forns, Professor of Hygiene in Madrid (1912); Dr. F. Sojo Batlle, professor of ENT in Barcelona (1913); Gabriel Lupiáñez, Professor of Medicine in Seville (1915); Felix Krause, Professor Emeritus at the University of Berlin (1920); and Amalio Gimeno Cabañas, Professor in Madrid (1921). The main argument for Ferrán's nomination was his cholera vaccine and the idea of serum therapy, which were new contributions to the prevention and treatment of infectious diseases. The Nobel Prize in Physiology for 1915 and 1921 was declared vacant.

Given the valid and strong arguments provided by Ferrán's nominators in favor of his candidacy, we may wonder what caused the neglect of Ferrán by the Nobel Committee. Based on the evidence presented so far, several extra-scientific factors may have influenced the final result.

- Ferrán's individual approach to research, without financial support and outside public and academic institutions.
- The paradigm shift from the miasmatic theory to the microbial theory.
- The lack of recognition of the value of sanitary statistics.
- The personal opposition to Ferrán and his cholera vaccine by leading scientists such as Cajal and the members of the French Commission of 1885.
- The dissemination of Ferrán's experimental and clinical works was largely through monographs published by himself in Spanish, French, or German, rather than in medical journals, which limited the spread of knowledge about his discoveries.
- The malicious gossip typical of the Latin spirit, which distorted the personal and scientific value of his research work.
- A bias in the Nobel Committee due to personal ignorance, language barriers, ideological bias, thematic preferences, diplomatic pressures, or circumstantial opportunism.

The historian of science Joel Levy states in his book *Scientific Rivalries* that: "The history of science is as much a story about personalities as it is about ideas, and often it has progressed through fierce struggles for scientific and personal supremacy. Through the clash of ideas and egos, many of the great debates of science are explored, shedding light on the sometimes painful genesis of concepts and theories that today are considered paradigmatic".

REFERENCES

- Abreu, Eduardo: O medico Ferran e o problema científico da vacinação cholérica . Lisboa, 1885.
- Ferran Clúa, J; Viñas Cusí, F; Grau, R. : La peste bubónica. Memoria sobre la epidemia ocurrida en Oporto en 1899 y la epidemia de peste ocurrida en Barcelona. Barcelona, Tipografía Sucesores Sánchez, 1907.
- Pous, M.: "La vacuna del Dr. Ferran i la reacció colèrica del poder espanyol". Elnacional.cat, 5 d'abril 2020.
- Sabaté i Casellas, F.: "Jaume Ferran i Santiago Ramon y Cajal, una relació tempestuosa". En: Bruguera, Miquel i Campins, Magda (Edit.): Jaume Ferran i Clua (1851-1929) en homenatge. Barcelona, Col·legi de Metges de Barcelona, 2021.
- Brouadel, P, Charrin, Albarran: "Rapport sur les essais de vaccinations cholériques entrepris en Espagne par M. le docteur Ferrán, présenté au ministre de commerce ». Bulletin de l'Académie de Médecine. Paris, G. Masson, 1885. Série 2. Tome XIV, 902-932. Séance du 7 juillet.
- "Una figura tempestejada. El Dr. Jaume Ferran". A: La tasca de l'Hospital Clínic. Obra científic-social. 1935. Barcelona. Pàgines 66-84.
- Fernández Sanz, J. J.: "La inoculación anticolérica de Ferrán y su polémica nacional en 1885". Asclepio, 1989, 42(2), 51 '86.
- Pulido Fernández, Á.: ¡Vae inventoribus magnis! La odisea de un descubrimiento médico grandioso: el Dr. Ferrán y el cólera morbo asiático en la guerra europea. Barcelona, Imp. La Renaixensa, 1921.
- Corbella i Corbella, Jacint: "Propostes de metges catalans pel Premi Nobel de Fisiologia o Medicina entre els anys 1901 i 1951". Gimbernat, 2008 (*),51, 219-224.
- Levy, Joel: Rivalidades científicas. De Galileo al proyecto Genoma Humano. Madrid, Paraninfo Ediciones, 2010.