

Nos recuerda, sin embargo, la falibilidad de cualquiera de estos métodos en un contexto cultural complejo como el de los tribunales de justicia.

A pesar de su notable erudición, a veces algo repetitiva a lo largo de los capítulos, *La verdad sobre el caso Lafarge*, cautiva al lector no especialista en historia de la ciencia y lo transporta a la Francia de las décadas centrales del siglo XIX y a las vicisitudes de un personaje como Marie Lafarge, de gran popularidad, que llegó incluso a convertirse en fuente de inspiración de escritores del prestigio de Gustave Flaubert, a la hora de describir el opresivo ambiente de provincias en su Mme. Bovary. Enfrentándose a la enorme complejidad del caso y a todas sus múltiples derivadas, el profesor Bertomeu-Sánchez ha asumido con valentía el reto de dialogar con un grupo de lectores amplio, más allá de los reducidos círculos de especialistas, para así comunicar sus brillantes resultados de investigación. Sabia y acertada decisión que, siguiendo la pauta de la «expository science» de Terry Shinn y Richard Whitley, o de los antiguos, pero nunca anticuados, «círculos esotéricos y exotéricos» de Ludwik Fleck, otros muchos historiadores de la ciencia deberían animarse a practicar. ■

**Agustí Nieto-Galán**

[orcid.org/0000-0002-3458-0774](https://orcid.org/0000-0002-3458-0774)

Centre d'Estudis Històrics sobre la Ciència-CEHC  
Universitat Autònoma de Barcelona

**Lundy Braun. *Breathing Race into the Machine. The Surprising Career of the Spirometer from Plantation to Genetics*. Minneapolis: University of Minnesota Press; 2014, 304 p. ISBN: 978-0-8166-8357-4. \$ 24 (cloth)**

Lundy Braun's *Breathing Race into the Machine* provides an excellent account of the role that race played over two centuries in what the West claims is «scientific medicine». Building on the work of Stephen J. Gould and Keith Wailoo and others, Braun analyzes how scientists and medical personnel in different parts of the world created and embedded racial differences into scientific instruments that were touted as objective. While nominally about a specific medical device, the book raises important issues for all scholars interested in the history of medicine, technology, race and science.

The focus of Braun's study is the spirometer, a machine designed to measure lung function. But as the author shows, it was much more than that, for it came to be used in the twentieth century to diagnose and monitor disease more broadly. And, as the book demonstrates in exquisite detail, it was used in such a way as to reinforce racist notions of the inferiority of people of color and the superiority of whites.

Developed in Britain in the mid-nineteenth century, where it was primarily used to examine the «disease ridden bodies of the lower classes» ensnared in the Industrial Revolution (pp. 2-3), the spirometer quickly came to be used in the United States and especially in the slave south, where physicians used it to do research that purportedly showed that African Americans' lung capacity was 20% less than whites. This was part of an effort in the antebellum South to justify slavery, in this case to provide «scientific» evidence for the inferiority of blacks. After the Civil War, such ideas were given legitimacy in the United States as a whole as a result of a study conducted in 1869 by the United States Sanitary Commission, «Investigations in the Military and Anthropological Statistics of American Soldiers» that used the spirometer to give further credence to the idea that whites had greater lung capacity than blacks. Braun describes how the chief clerk in charge of data analysis privately conceded that «lost data, discordant results and difficulty of grouping data» meant that «the personal equation is evidently very large so that it is not possible to compare the white and colored races with any certainty of being right». Yet, that is precisely what the Commission did, concluding in its published report, that the black/white differences in lung capacity could not «fail to attract attention at first glance» (p. 35-36). Braun points out that during the Civil War black soldiers had much worse nutrition, medical care, and overcrowded living quarters, as well as higher rates of respiratory diseases, yet these social and medical conditions did not enter into the calculation of why the measurements may have turned out as they did. Instead, the divergence was ascribed to racial difference, rather than to social causes.

These studies had a major impact on scientific and social thinking in the United States and beyond in the late 19th and early 20th centuries. G. Stanley Hall, the prominent child psychologist, and Frederick Hoffman, the influential statistician for the Prudential Life Insurance Company, incorporated these studies into their own racial ideologies, with Hoffman declaring, «lower lung capacity was a central marker of racial inferiority» (p. 43). Braun suggests that the spirometer was influential at this time for a number of reasons, including the fact that statistics was consolidating its legitimacy as a science that it built on an

already long history of racist ideas about pulmonary dysfunction among blacks, and the prevalence of tuberculosis among African Americans. The renowned sociologist, W.E.B. DuBois, as well as Kelly Miller, a prominent Howard University mathematician, «mounted particularly trenchant critiques of Hoffman» (p. 48), but these had very little effect on the developing consensus about racial differences in lung capacity in the increasingly segregated America of the early twentieth century.

Despite the increasing influence of the spirometer in the United States, it was not until the first couple of decades of the twentieth century that the spirometer's importance became internationalized. And this, in part arose from the desire of pulmonologists to establish standardized measurements for the lungs' vital capacity. Scientists in Europe, the United States, China and India did a series of studies that «established the scientific "fact" that vital capacity was lower in "nonwhite", "non-European", or "non-western" populations than in those considered "white"» (p. 111). Although the goal of establishing scientific norms was not achieved, the general conception of racial difference —i.e. the superiority of whites and the inferiority of people of color— became entrenched in the scientific literature.

In many ways, the heart of the story that Braun tells is in the discussion of the use of the spirometer in South Africa, where «South African science became critical to building an "evidence base" for the belief in innate differences in lung capacity» (p. 168). Because South Africa had a long history of occupational lung diseases, especially silicosis, whose study had been racialized from the early twentieth century, the mines there continued to serve as a «natural laboratory» to «further entrench the idea of innate racial difference in lung capacity» (p. 186). The research that white South African scientists conducted was part of a larger social reality embodied by the racist legislation of the apartheid state. (And ironically, South Africa's scientists used the studies conducted in the United States cited above to support their conclusions). But here the story takes an important turn. For black trade unions, working with a small occupational health unit at the University of Cape Town, mounted the first systematic contestation of the research supposedly showing innate racial difference in lung capacity. As Braun shows «this contestation represents one of South Africa's most important, yet largely unknown, contributions to the history of race and spirometry» (p. 189). One of the key physicians in this story was Jonny Myers, physician, anti-apartheid activist, and occupational health epidemiologist at the University of Cape Town, who, like W.E.B. DuBois, «questioned the assumptions about racial difference embedded in routine methodology» (p. 190).

What is perhaps most disturbing about the story that Braun tells is that the researchers for the most part failed to even define what they meant when they used terms such as «race» and «ethnicity». Yet they were so determined to find racial difference and racial hierarchy that they failed to even ask questions about, much less analyze, the social, political and economic context of the differences in respiratory health they were observing. As a result, political and social judgements masquerading as science, have held sway for over a century and a half. ■

**Gerald Markowitz**

orcid.org/0000-0002-9021-5536

John Jay College and Graduate Center

City University of New York

**Susan D. Lamb. Pathologist of the Mind. Adolf Meyer and the Origins of American Psychiatry.** Baltimore: Johns Hopkins University Press; 2014, 299 p. ISBN 978-1-4214-1485-0. \$ 44,95 (cloth).

Adolf Meyer (1866-1950) es, sin ninguna duda, uno de los psiquiatras más acreditados de la primera mitad del siglo XX. Su obra, tan polifacética como creativa e influyente, ha sido abordada desde perspectivas diversas. Dignos de mención son, en este sentido, los trabajos de Eunice Winters, tanto su esfuerzo de compilación y edición de los principales escritos de Meyer —cuatro tomos de *The Collected Papers of Adolf Meyer* (1950-52) o *Psychobiology: a Science of Man* (1957)—, como algunos artículos de interés publicados en la década de los sesenta, entre los que destacaré el estudio sobre el papel desempeñado por Meyer en el movimiento pro-higiene mental en Estados Unidos<sup>1</sup>, una investigación que, personalmente, me resultó de gran utilidad cuando, hace ya bastantes años, empecé a interesarme por la historia de la higiene mental. Trabajos importantes, a los que siguieron otros que, como ya he apuntado, han analizado distintas facetas de la vida y la obra de Adolf Meyer. En nuestro medio, resulta de interés un trabajo de

---

1. Winters, Eunice. Adolf Meyer and Clifford Beers, 1907-1910. *Bulletin of the History of Medicine*. 1969; 43: 414-443. De esta misma autora Winters, E. E. (1966). Adolf Meyer's two and a half years at Kankakee. *Bulletin of the History of Medicine*. 1966; 43: 414-443.