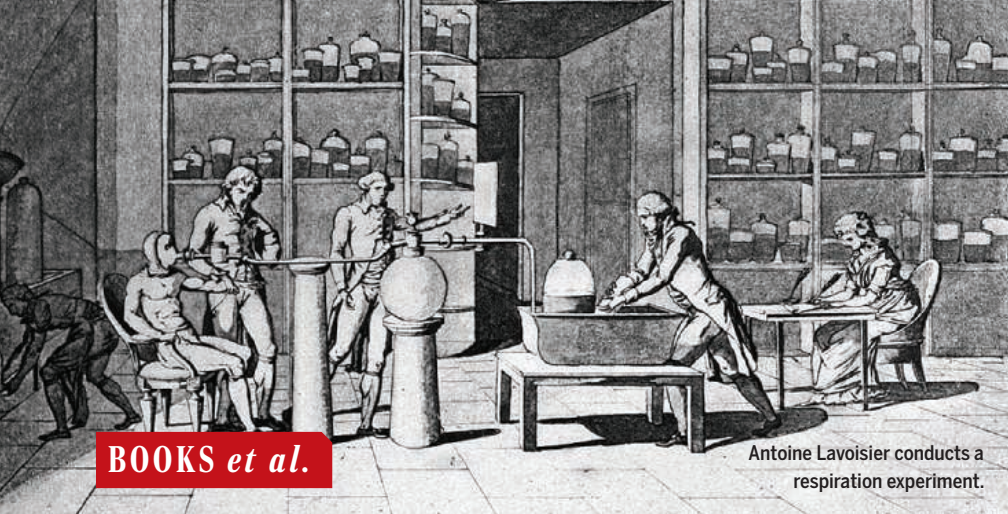




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BOOKS *et al.*

Antoine Lavoisier conducts a respiration experiment.

Elixir: A Parisian Perfume House and the Quest for the Secret of Life
Theresa Levitt
Harvard University Press,
2023. 320 pp.



chemist Laugier rescued from his impoverished garret and brought into the shop's laboratory. This is Auguste Laurent, and the fact that you probably have never heard of him is an injustice of history that Levitt remedies.

Earlier than anyone, Laurent proposed theories of molecular substructure to understand organic chemistry. He also had a genius for alienating people and antagonizing everyone who was anyone in the Parisian scientific world, leading to his intellectual exile to Sèvres, to Bordeaux, and to Laugier's shop. (An exception was the equally crotchety physicist Jean-Baptiste Biot, an especially lively figure in *Elixir*.)

We watch Laurent turn every attempt to aid his career into a new opportunity to cause offense. He died in penury in 1853. But at a crucial moment, he collaborated with another young chemist from the provinces on his theories of chemical structure—Pasteur—who subsequently removed references to Laurent from his pathbreaking dissertation.

Laurent's story, rich in chemical history, is much leaner with respect to the politics and culture that beset Laugier's family, a consequence of the rapid professionalization of scientists, especially chemists. Levitt begins with an astounding tour of the guilds of glovers, spicers, distillers, perfumers, vinegar-makers, and apothecaries who were enmeshed in the upheavals of urban revolution. The academic laboratory artificially shut those economic and social pressures out such that the politics remaining, as Laurent's sad story reveals, tended to be of the petty academic variety.

Levitt's detailed research broaches one of the key questions in the history of science: How do ideas that are beyond the scope of their time ever find takers? In Laurent's case, it required a detour through an alternative space—Laugier's perfumery—to build up slowly (alas, also posthumously) enough evidence to change people's minds. ■

10.1126/science.adg9670

HISTORY OF CHEMISTRY

The perfumer before Pasteur

A historian recounts the odorous origins of the first evidence for molecular structure

By Michael D. Gordin

For more than 3 years, loss of the sense of smell has been a telltale harbinger of infection for a considerable fraction of those who contract COVID-19, sometimes with lasting aftereffects. University of Mississippi historian Theresa Levitt found hers “strangely altered” in March 2020, while she was writing *Elixir*, a book that traces the intense connections between smell, health, science, and social upheaval. Even without this present context, the book would be almost impossible to put down.

Elixir concludes with Louis Pasteur's discovery that many organic molecules synthesized in a laboratory, although chemically identical with respect to composition, differ in structure from their counterparts isolated from living sources. Nature is left-handed; the laboratory is ambidextrous. Most of the book's excitement comes from the improbable path to reach this end point, which offered the first strong support for molecular structure and thus the atomic hypothesis. Written with the propulsive flow of a novel, it unfolds in two interconnected but sequential stories, each following a scientific hero. Neither hero is Pasteur.

Levitt first traces the fate of Édouard Laugier (1807–1869), scion of the respectable perfume business his grandfather Blaise had established on rue Bourg-l'Abbé in Paris in the 1770s. Blaise hailed from Grasse, in the south of France, renowned for its connection with his trade and boasting traditions

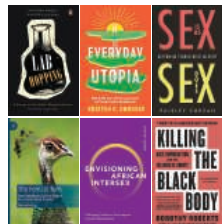
of extracting scents from all sorts of botanical substances. The family prospered and developed higher professional aspirations. Édouard caught the chemistry bug and during the 1830s used his perfume shop as a site for scientific investigation as well as adornment. It was not easy, which is why *Elixir* is so much fun to read.

If you recall your European history, it will come as no surprise that the Laugiers were swept up in the tumult of the French Revolution. If you do not recall your European history, so much the better: You will receive a whirlwind tour from the point of view of pomades, perfumes, and eau de cologne.

Two teasers will not spoil the fun: Chemist Antoine Lavoisier's efforts to save the government's gunpowder supply were stymied by the demand for soap, as both these items required alkalis from the ashes of the barilla plant, whose supply Spain had cut off. More than a decade later, we see Napoleon bathing in and drinking gallons of perfume. (Perfumers did not replace the ethyl alcohol with poisonous methyl alcohol until 1855 in Britain and 1872 in France, when the switch was made for tax reasons.)

Halfway through the book, we encounter a new protagonist: a cantankerous small-town

SCIENCE, SEX, AND GENDER



PODCAST

The study of sex and gender has long affected scientific thought, and in 2023, *Science* will explore some of these influences in a limited podcast series. This week on the *Science* podcast, the series' host, Angela Saini, and scholarly adviser Anne Fausto-Sterling discuss the impetus for the project and give listeners a sneak peek at the titles and authors who will be featured. <https://bit.ly/3LUwdqY>

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The perfumer before Pasteur

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