

The numerous recipes included in every chapter—more than a hundred in total—are a high point of *Science and Cooking* and serve to illustrate the scientific concepts. Many of them instruct readers on how to make simple yet delicious items, including ceviche, cheese, cookies, cakes, sauces, and beverages, that require only ingredients and tools found in most kitchens.

More exotic and complicated dishes, such as chocolate eggs, black truffle gel, and suckling pig with Riesling Pfalz, require rare ingredients and specialized equipment. However, they could be useful for restaurant chefs or demonstrations in a laboratory classroom equipped with liquid nitrogen, rotary evaporators, and temperature-controlled baths. Some of the far-out recipes like “old book essence” and “thousand-year-old eggs” are probably more fun to read than to eat, unless you have an adventurous palette.

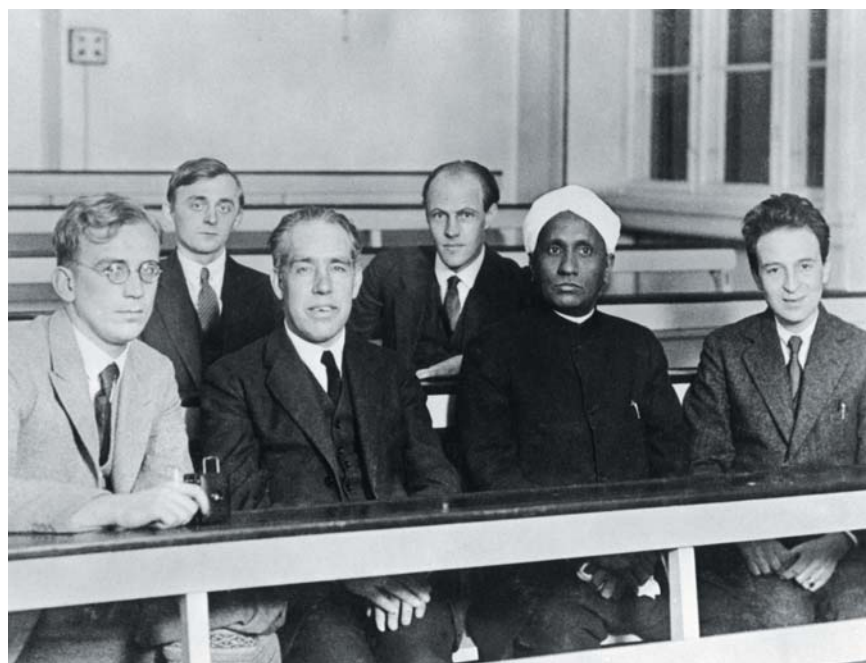
Science and Cooking is neither a science of cooking book nor a textbook for teaching an undergraduate science and cooking course like the one taught by the authors. For those interested in learning about the physics and chemistry of cooking, there are more detailed books like *On Food and Cooking: The Science and Lore of the Kitchen* by Harold McGee (1984, rev. 2004), *The Food Lab: Better Home Cooking Through Science* by J. Kenji López-Alt (2015), and *The Science of Good Cooking: Master 50 Simple Concepts to Enjoy a Lifetime of Success in the Kitchen* by the editors at *America's Test Kitchen* and Guy Crosby (2012).

For an undergraduate class, *Science and Cooking* could be complemented by the videos from the authors' online edX course and its electronic supplement, *Course Companion: For the Science and Cooking Course at Harvard* (also written by Brenner, Sörensen, and Weitz), to provide a more quantitative approach to the underlying physics.

Science and Cooking provides an entertaining introduction to the fascinating science behind gastronomy and is likely to appeal to a broad audience. Those seeking to experiment with novel cooking methods and interested in analyzing recipes scientifically with the goal of improving or modifying them will find plenty to chew on here.

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CHANDRASEKHARA VENKATA RAMAN (second from right), with Niels Bohr (third from left), George Gamow (far left), and others at Bohr's institute in Copenhagen, likely sometime in the 1930s.

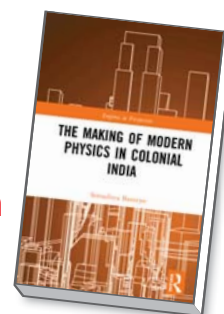
Quantum physics and colonialism

The history of 20th-century physics is usually told from a Western perspective, but anyone familiar with Bose–Einstein statistics, the Raman effect, or the Saha ionization equation is at least implicitly aware that it was not exclusively Euro-American. In *The Making of Modern Physics in Colonial India*, Somaditya Banerjee, a historian of science at Austin Peay State University, examines the lives of the three Indian physicists who gave their names to those discoveries: Satyendra Nath Bose, Chandrasekhara Venkata Raman, and Meghnad Saha.

Serving as a corrective to the standard Eurocentric story, Banerjee's book demonstrates that the three scientists not only laid the foundation for modern physics in India but also earned international renown for their significant contributions to the then-emerging field of quantum physics. Indeed, despite their location on the scientific periphery, Bose, Raman, and Saha engaged with the leading scientists of their time, most of whom were based in Europe or the US. But their interna-

The Making of Modern Physics in Colonial India

Somaditya Banerjee
Routledge, 2020.
\$160.00



tional outlook never blinded the three to political struggles at home, which drove them to use science as a weapon in the nationalist fight against colonialism.

Bose, for example, opposed the Raj and wanted to avoid associating with it as much as possible. That anticolonial sentiment is part of why he chose to correspond with Albert Einstein—a foreign scientist who was not a subject of the British Empire—even though British scientists and administrators supported Bose's work.

Raman had a robust network of international correspondents, although he remained very much rooted in his land and culture. Like Bose, he was close to many leading non-British scientists, including Niels Bohr, Arnold Sommerfeld, and Max

Born. At a time when it was unheard of for a non-Western scientist to receive the Nobel Prize in Physics, he was repeatedly nominated for the award by some of the most important scientists of his time, including Bohr, Ernest Rutherford, and Charles Thomson Rees Wilson. Thanks in part to his network of international scientific connections, Raman eventually received the prize in 1930—the first time it was awarded to a physicist from the non-Western world.

Saha, the third scientist discussed in the book, differed from Bose and Raman in that he came from a lower-caste background; unlike his upper-caste compatriots, he had to deal with everyday discrimination and inequality. Banerjee argues, however, that Saha was accepted alongside Bose and Raman as a *bhadralok*—a member of the educated upper elite in Bengali society—because he excelled in his studies, went to the best educational institutions, and worked with some of the top professors of his day.

Given their backgrounds, neither the lower-caste Saha nor Raman, whose Tamil Brahmin upbringing provided him with cultural and caste privileges, would seem to fall into the *bhadralok* category. Nevertheless, Banerjee attempts to show that the *bhadralok* identity was not tied to geographic origin and caste background but instead linked with education level, intellectual pursuits, and the choice of a modern profession. He argues that a distinct practice of *bhadralok* physics emerged in early-20th-century India—one embodied by Bose, Raman, and Saha.

Although *The Making of Modern Physics in Colonial India* is about three leading Indian physicists, it serves as an invitation for scholars to examine other non-Western scientists who did important work under colonial rule but often remain overlooked in traditional narratives. It also urges historians to transcend the binary of the West and the East and to analyze multiple geographic contexts and individuals in their work. Banerjee's book will be of interest not only to historians and anthropologists of science but also to scientists who want to go beyond Western narratives of quantum physics and related fields.

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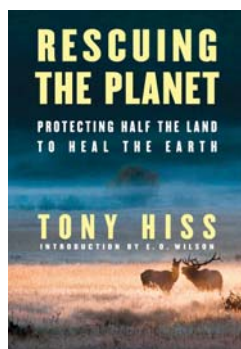
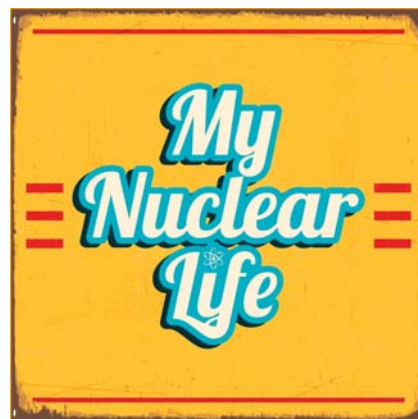
NEW BOOKS & MEDIA

My Nuclear Life

Shelly Lesher, host
2020 (Season 1)

Nuclear physicist Shelly Lesher, a professor at the University of Wisconsin–La Crosse, hosts the podcast *My Nuclear Life*, which examines the intersection of atomic science and broader society. Its six-episode first season, which premiered in fall 2020, discusses such wide-ranging topics as startup companies building generation IV nuclear reactors; the Iran nuclear agreement, which the Trump administration withdrew from and which the Biden administration is considering rejoining; and the Manhattan Project. A particular highlight is the second episode, with nonfiction author Dan O'Neill covering the history of Project Chariot, the early 1960s plan to “excavate” a harbor in Alaska by detonating atomic bombs. The podcast's second season began in March 2021.

—RD



Rescuing the Planet

Protecting Half the Land to Heal the Earth

Tony Hiss
Knopf, 2021. \$27.95

To counter the mass-extinction threat caused by humanity's impact on the environment, a plan has been proposed to protect 50% of Earth's natural land by 2050. In *Rescuing the Planet*, former *New Yorker* staff writer Tony Hiss focuses on efforts being made in North America to further that goal. A blend of biography, history, science, and travel, the book takes the reader on a journey to such wilderness areas as Canada's Boreal Forest, the Appalachian Trail, the Southeast's Piney Woods, and Yellowstone National Park. Hiss discusses their evolution, the plants and wildlife that live there, and some of the people who have worked over the years to conserve them.

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The Next 500 Years

Engineering Life to Reach New Worlds

Christopher E. Mason
MIT Press, 2021. \$29.95

Traveling into space and colonizing new planets is a necessary duty for humanity, writes geneticist and computational biologist Christopher E. Mason. Humans, alone among Earth's species, understand that Earth's life span is finite. Moreover, we have the technological capability to preserve life by transporting it elsewhere in the universe. But to do that, he says, we need to bio-engineer it to survive in alien environments. In *The Next 500 Years*, Mason lays out a timeline for accomplishing such engineering on a genetic, cellular, planetary, and interstellar scale. His vision is ambitious, and his detailed descriptions of current science and what we have achieved so far bolster his expectations for the future.

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