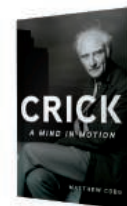


SCIENCE LIVES

Francis Crick's life and legacy

A new biography offers a definitive account of the DNA decoder

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Crick:
A Mind in Motion
Matthew Cobb
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608 pp.

In October 1958, Francis Crick and his wife, Odile, hosted a party at their house in Cambridge to celebrate Fred Sanger's Nobel Prize in Chemistry. During the festivities, a rocket was launched from the roof terrace, which landed on the roof of a nearby church and necessitated the services of the local fire brigade (1). This otherwise inconsequential event is an apt metaphor for the scientific assault on mysticism and vitalism that the atheist Crick and his contemporaries helped pioneer through their pursuit of a new "chemical physics" of biology—an endeavor that would eventually help describe the nature of life itself. In his magnificent and expansive new biography, *Crick: A Mind in Motion*, Matthew Cobb forensically explores and electrifies this important chapter in the history of science through the exploits of one of its key protagonists.

Crick's fame was predicated on his collaboration with James Watson at the Cavendish Laboratory over a 6-week duration in 1953, in which they used model building to infer the double-helical structure of the genetic material. This work was critically informed by insights from the crystallographic data of Rosalind Franklin, Raymond Gosling, and Maurice Wilkins and facilitated by the prescience of physicist John Randall.

But Crick's scientific legacy extends far beyond this. In his relentless attempt to understand the nature of "the howling mammal, contrived out of 'meat' by chance and necessity," he also inferred the mechanism of DNA replication; applied Shannon's information theory (2) to genetic material; recognized the importance of genetic sequences for evolutionary biology and of how historical contingency resulted in "frozen accident[s]" in biological systems; helped describe the feed-forward process by which cells transform genetic information into protein sequences; and established the central dogma that information cannot flow backward from an amino acid sequence to a nucleic acid sequence. He also helped formulate the tenets of computational neuroscience and pioneered attempts to determine the neural basis of consciousness. Accessing a plethora of new primary sources, including interviews, archives, and Crick's voluminous correspondence, Cobb journeys into the scientist's urbane, enigmatic, and mercurial mind.

One extraordinary revelation not addressed by prior biographers (3, 4) is the tremendous influence of Crick's closest and most enduring friend, Georg Kreisel. A brilliant Austrian mathematician and logician—unkempt, eccentric, and sexually promiscuous—Kreisel escaped to England on a *Kindertransport* in 1939, later becoming a pupil of the philosopher Ludwig Wittgenstein in Cambridge. Although not directly explored by the author, this connection made me wonder whether Crick's focus on model building was influenced, through Kreisel, by the concept of isomorphic representation embodied in Wittgenstein's picture theory of meaning (5).

Another intriguing theme Cobb explores is Crick's friendship with the psychedelic beat poet Michael McClure (6). Crick was so taken by the charismatic poet, in particular, a stanza in McClure's "Peyote Poem"—"THIS IS THE POWERFUL KNOWLEDGE / we smile with it"—that he pinned it onto a wall in his home. For Crick, the beauty inherent in the solution of a complex scientific problem and the aesthetic euphoria and sense of revelation it created were reminiscent of the perceptual effects of consuming a hallucinogenic compound, such as peyote.

Cobb also touches on Crick's eugenicist proclamations and details some of his other disastrous forays into the social implications of science, which ultimately led him to permanently abstain from such activities. Crick's notable lack of engagement with the 1975 Asilomar meeting, which sought to address the potential biohazards and ethics of recombinant DNA technology, was in stark contrast to Watson and biologist Sydney Brenner. Crick never explained his silence on the topic of genetic engineering (7).

Complex, energetic, freethinking, dazzling, and bohemian, Crick was also ruthless, immature, misogynistic, arrogant, and careless. The phage biologist Seymour Benzer noted that Crick was not a "shrinking violet." Maurice Wilkins described Watson and Crick as "a couple of old rogues," and Lawrence Bragg more politely observed that Crick was "the sort of chap who was always doing someone else's crossword." Cobb, however, has arrived at a somewhat more benign and nuanced interpretation of the events surrounding the discovery of the double helix,

the collaborative nature of which, he asserts, was obfuscated by the fictional narrative drama of Watson's bestseller *The Double Helix* (8, 9).

Crick is set to become the definitive account of this polymath's life and work. We must now wait patiently for historian Nathaniel Comfort's upcoming biography of James Watson to complement it. □

REFERENCES AND NOTES

1. M. B. Hoagland, *Toward the Habit of Truth: A Life in Science* (Norton, 1990), p. 116.
2. C. E. Shannon, *Bell. Syst. Tech. J.* **27**, 379 (1948).
3. M. Ridley, *Francis Crick: Discoverer of the Genetic Code* (HarperCollins, 2006).
4. R. Olby, *Francis Crick: Hunter of Life's Secrets* (Cold Spring Harbor Laboratory Press, 2009).
5. L. Wittgenstein, *Tractatus Logico-Philosophicus* (Kegan Paul, Trench, Trubner & Co., 1922).
6. M. McClure, *Of Indigo and Saffron: New and Selected Poems* (Univ. of California Press, 2011), pp. 34–44.
7. M. Cobb, *J. Hist. Biol.* **58**, 49 (2025).
8. M. Cobb, N. Comfort, *Nature* **616**, 657 (2023).
9. J. Watson, *The Double Helix: A Personal Account of the Discovery of the Structure of DNA* (Atheneum, 1968).

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