FROM SCIENCE TO *WISSENSCHAFT*, OR: FORTUITOUS INQUIRY

JUTTA SCHICKORE

Jutta Schickore is Ruth N. Halls Professor in the Department of History and Philosophy of Science and Medicine at Indiana University Bloomington. Her research focuses on philosophical and scientific debates about scientific methods past and present, particularly about causal inquiry, control experiments, (non)replicability, and failure. Her publications include the monographs *Controlled Experiments* (Cambridge 2024), *About Method: Experimenters, Snake Venom, and the History of Writing Scientifically* (Chicago 2017), *The Microscope and the Eye: A History of Reflections, 1740–1870* (Chicago 2007), several collected volumes, most recently *Traditions of Analysis and Synthesis* (Cham 2025) and *Elusive Phenomena, Unwieldy Things: Historical Perspectives on Experimental Control* (Cham 2024), both coedited with W.R. Newman, and articles in history and philosophy of science journals. She has received several awards, including two memberships at the Institute for Advanced Study (Princeton, NJ) and one at the National Humanities Center (Research Triangle Park, NC), grants from the Mellon Foundation and the National Science Foundation, and the Paul Bunge Prize from the Hans R. Jenemann Foundation for *The Microscope and the Eye*. – Address: Department of History and Philosophy of Science and Medicine, Indiana University, Ballantine Hall 903, Bloomington, IN 47405, USA.
E-mail: jschicko@iu.edu.

In his book on logic, published in 1795, the philosopher Johann Gottfried Kiesewetter distinguished among three kinds of scientific inquiry: confirmatory, exploratory, and fortuitous. In confirmatory research, he told his readers, the empirical investigation merely corroborates what one already knows. Exploratory research serves to investigate in depth

and detail what one already knows in broad terms. Fortuitous study proceeds without any concrete expectations about the possible outcome.

When I arrived at the Wiko in September, I expected my work to be mostly confirmatory, and perhaps somewhat exploratory also. I had a plan for a book on German philosophy of science in the decades around 1800. I had identified a set of little-studied sources representing philosophy of science in Germany during this period. I even had drafts of book chapters on topics like observation, experiment, hypotheses, and causation in the natural sciences and a pretty good idea of what the book would show and how the argument would be arranged. This is unusual for me; the arguments of my previous books and articles took shape while I was writing, and the main point only became clear to me as I was finishing each piece.

Upon arrival at the Wiko, I was quite confident that I could make good use of what I expected to be a period of free time to write (interspersed with trips to the swimming pool and an occasional concert or art exhibition). I would write a couple more chapter drafts during the first few months, following my plan, maybe exploring some of my sources in a little more depth. I would spend the remaining months revising, perhaps collecting some feedback from a couple of fellow Fellows along the way, and leave with a nicely polished book manuscript.

Or so I thought. Then Wiko life happened. Early on, we started a History and Philosophy of Science reading group, which usually met once a week all the way through June 2025. Fortuitously, several scientists decided to join the group, as did a scholar of ancient Near East languages and literature, a medievalist, and an art historian. Conversations ranged from Mesopotamian divination to mathematical modeling in biology and from the cultural significance of calling bird vocalizations "song" to the role of uncertainty in medical reasoning. Whatever the topic was, each and every meeting was hugely stimulating.

Two group members, Avi Winitzer and Kärin Nickelsen, realized that their respective invited guests—an Assyriologist and a historian of the humanities—would love to meet each other. A one-day workshop ensued. A few other scholars from the area joined us and our two guests for a day of conversations at Villa Jaffé about Scythes, Herodotus' ethnographic reports and his 19th-century readers, cuneiform tablets, and Nelson Goodman's philosophy of worldmaking.

Another immensely inspirational spinoff of the HPS conversations was two joint projects, both collaborations of historians, philosophers, and scientists. One project came into being as Cheryl Misak, Kärin, and I pricked our ears during Rachel Gregor's

Colloquium talk, as Rachel described her work on the chemical repertoires of microorganisms. Rachel was working on a framework to classify the numerous and diverse molecules synthesized by marine microbes and thinking about criteria for doing so. A scientific classification problem! It immediately caught the attention of the philosophers and historians of science in the audience. The ensuing collaborative work on an article about chemical categories continued via Zoom and email after Rachel's term at the Wiko ended.

The other collaborative project, equally rewarding, took shape as Sara Magalhães and Mariana Gómez-Schiavon discovered that they were both pondering similar issues arising from their respective work in evolutionary and systems biology. Both were wondering how to make rigorous experiments and precise measurements of biological systems, which are inherently complex and stochastic. And since I had already bugged both of them independently with my questions about rigor and experimental control in biology, we decided to work out more systematically what it means to conduct a *well-controlled* experiment in biology. This work also continued after Mariana's stay at the Wiko had ended. Both projects led to papers, which, hopefully, will be published soon. For me, the two collaborative ventures were among the most valuable Wiko experiences.

These fortuitous encounters at the Wissenschaftskolleg made me realize that the topic of my work on German scholarship is not the history of philosophy of science. It is the history of philosophy of *Wissenschaft*—all of it, from experimental agriculture to pharmacology to criminal psychology and scientific bible studies. My work took on an entirely new dimension as I began to see the real breadth and scope of German philosophy around 1800 and as I set out to incorporate the novel insights into my project.

So yes, I did emerge from these intense ten months with a draft of a book. And I did swim, indoors, outdoors, in pools and lakes, in freezing cold and in sweltering heat. But it was also a year of full of unanticipated intellectual adventures (and music! the lovely Wiko choir!), facilitated and supported in every way by the wonderful and dedicated Wiko staff. As a result, my project took entirely new turns.

For the philosopher Kiesewetter, fortuitous investigations—unplanned, unforeseen, unexpected—were a vital ingredient of scientific inquiry. I happily concur.