A SCHOLARLY REFUGE
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Angela Creager is the Thomas M. Siebel Professor in the History of Science at Princeton University. She completed her Ph.D. in Biochemistry in the laboratory of Howard K. Schachman at the University of California, Berkeley, where she developed an interest in the history of biology. Supported by postdoctoral awards, she retrained as a historian of science at Harvard University and MIT, then joined the History faculty at Princeton University. She specializes in the history of biomedical research, from virology, as featured in *The Life of a Virus: Tobacco Mosaic Virus as an Experimental Model, 1930–1965*, to the history of environmental health and regulation. In 2018, her book *Life Atomic: A History of Radioisotopes in Science and Medicine* was awarded the Patrick Supper Prize in the History of Science by the American Philosophical Society, which also elected her to membership in 2020. From 2016 to 2020, she was Director of Princeton's Shelby Cullom Davis Center for Historical Studies, where she oversaw residential fellowships and seminars on the themes of "Risk and Fortune" and "Law and Legalities." – Address: Department of History, Princeton University, 129 Dickinson Hall, Princeton, NJ 08544, USA.
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I must start this report by saying how immensely grateful I am that the leadership of the Wissenschaftskolleg did not cancel or postpone its 2020/2021 fellowship program or take it remote, as so many other institutes and centers did. Because of my administrative responsibilities (as Department Chair), I could not have rescheduled a year in Berlin until at least 2024. Being able to be in residence at the Wiko this year meant that I was able to be focused, productive, and disengaged from my home department in ways that would have

been simply impossible had I remained in Princeton. The time difference certainly helped, giving me six hours before any email from the US rolled in. In addition, staying in Princeton would have meant being consigned to working at home. It was such a privilege to have a beautiful office to come to each day – and a hot lunch waiting for me there! Johannes Böhme and I made full use of the little kitchen at the end of the hall to make excellent coffee together in his French press. (I even brought in a grinder.) As he taught me to say, full cups in hand and heading back to our offices, "Frohes Schaffen!"

Even with the restrictions imposed by the pandemic, I was able to get to know the other Fellows well, not least due to German classes with the wonderful Eva von Kügelgen, the Life Sciences chats, the Three Cultures Forums, lunches, dinners, and colloquia. They are an amazing bunch – and the Permanent Fellows that I got to know, too. Not only was each Fellow brilliant in their own domain, but they also communicated well, and generously, with practitioners of other disciplines. (Barbara Stollberg-Rilinger set this tone herself, and the amazing George Lewis made it an art.) Zoom is not the best medium for sharing one's research, but Fellows used it to creative ends, especially Minou Arjomand's unforgettable radio drama involving us all. Thanks to Daniel Schönpflug's thoughtful cultivation, the Three Cultures Forum also came to life, enabling scholars to bridge their divergent disciplinary perspectives and find unexpected commonalities. I learned so much from these interchanges; the sessions on race were especially important and illuminating. I was equally impressed by the lectures and public events that the Wiko organized to showcase this year's Fellows. (The film shorts, too, thanks to Katharina Wiedemann.) We managed a few excursions, as well as enjoying performances together (even when unplanned, with Jaeeun Kim and Alex Bevilacqua) at the Philharmonie when it reopened in June. I especially appreciated the fascinating guided walk with Sonja Dümpelmann through some of Berlin's urban parks. Although I was not in the runner's club, I could not help but find their dedication (especially Shamil Jeppie's) inspiring. Lastly, as a historian of biology with a background in biochemistry, I was especially keen to be in conversation with outstanding life scientists, which this year included no less than three bee biologists: Marcelo Aizen, Madeleine Beekman, and Ben Oldroyd. How sweet! I aim to keep these connections alive.

With respect to my own work, I had two goals. One was to see through production three major collaborative projects that I had been working on for several years. The second was to draft, or mostly draft, my monograph examining research on and regulation of environmental carcinogens in the second half of the twentieth century. Happily, I met

my goals, starting with the collective work. In December 2020, the British Journal for the History of Science published volume 5 of its open-access serial *Themes* that I coedited with Elaine Leong and Mathias Grote: *Learning by the Book: Manuals and Handbooks in the History of Science*. I co-authored the introduction and contributed an article. In January 2021, *Risk on the Table: Food, Health, and Environmental Exposure*, a volume co-edited with Jean-Paul Gaudillière, appeared. Here, too, I co-authored the introduction and contributed a chapter. Lastly, a seven-person co-authored book titled *Residues: Thinking Through Chemical Environments* is in production with Rutgers University Press and will appear this December. My last task in residence at the Wiko was finishing the copyedits on that manuscript. In addition to these book-length projects, I was involved in two other collaborations this year. I revised a co-authored article with Maria Rentetzi on the IAEA's role in setting international standards for radiation protection. She and I also co-organized with two other senior scholars a webinar on "Negotiating Radiation Protection" that ran all this year, featuring the work of about a dozen emerging scholars from the US, Europe, and Japan. We will edit their papers (which were excellent) into a volume.

My own book has the provisional title *Making Mutations Matter: A History of Environmental Risk through a Bacterial Test for Cancer-Causing Chemicals*. From the 1960s to the 1980s, many scientists and government agencies regarded cancer as an environmental disease, one that could be controlled by regulating exposure to carcinogenic chemicals. I examine these ideas and ambitions from the lab bench up, by following the trajectory of an influential Petri dish test that was used to identify potential cancer-causing substances. The history of the Ames test, as it was called, provides a prism for viewing both the changing landscape of cancer biology and the struggle between environmentalists and industry over US chemicals regulation, in which testing requirements became a political battleground. While the Ames test became widely adopted in toxicology, its role in regulatory oversight of chemicals was patchy and contested. By following a test rather than a law, I intend to extend work on the politics of regulatory decision-making to include materials and scientific practices.

I came to Berlin in the fall of 2020 with three chapters drafted, but incompletely. While at the Wiko, I was able to flesh out the parts I had started and draft two other chapters. An article drawn from one of these chapters has just appeared online in *Science, Technology, & Human Values*. I am currently working on sketching out the last two chapters before I return to teaching and administration. I want to offer heartfelt thanks to the amazing library staff at the Wiko – especially Anja Brockmann, Kirsten Graupner, and

Stefan Gellner – for not only obtaining nearly everything I requested, but also finding relevant primary sources I was not even aware of. I made good use of the state-of-the-art scanning machine in the library.

I am still undecided about whether to try to undertake the US-based archival work that I initially planned on this project, which became a casualty of the pandemic. Visiting US federal agency archives in the summer 2020 was, of course, impossible. I have already amassed an overwhelming amount of published material – these agencies constantly issued printed materials about their studies, assessments, decisions, and regulations. (In her wonderful colloquium, Yael Sternhell observed how the nineteenth-century US federal government committed itself to becoming a publisher; that trend is even more evident in the twentieth century.) Companies as well as government agencies are involved in the history I'm documenting, yet I do not have access to corporate archives. (Some of these papers have become available through litigation, in on-line repositories such as UCSF Industry Documents and ToxicDocs.) Is it more symmetrical – not to mention manageable – to tell this story with the mostly published sources I currently possess? This is a question I hope to resolve in the coming year. In any event, I will return to Princeton with a largely drafted book manuscript, thanks to my fellowship year at the Wissenschaftskolleg. I am deeply grateful to its excellent staff for literally making this productive year possible, as well as so very pleasurable.