

Manual for Survival: A Chernobyl Guide to the Future. By Kate Brown. New York: WW Norton, 2020. 420 pp.

Over the course of the past decade, Kate Brown has emerged as one of the most respected researchers on the environmental history of the Cold War era. Brown is not only a familiar name among scholars in her field, she is also a historian whose work embarks in a new direction in the secondary literature. In her scholarship, she has developed two historical perspectives and an innovative narrative method on which she builds. In her 2004 monograph *Biography of No Place* and her 2015 *Dispatches from Dystopia*, she made significant contributions to our understandings of changes which were considered familiar on the large scale by treating peripheral situations as dense points of confluence. Her themes include the relationship between the functioning of planned industrial towns and repression of human lives in the first part of the 20th century and the way Cold War regimes were unwilling to recognize the rights of those whose chronic illness was due to toxic materials. Sensitivity to the relationships between landscapes and individual lives is another key characteristic of the case studies she offered. That is how she raises new questions and places processes familiar from textbooks in a new context. Another central element of Brown's perspective is transnational and global thinking, in which she seeks to break down the hierarchy between scientific and non-scientific and Western and non-Western forms of knowledge. In *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters*, which was published in 2013, she demonstrated that the plutonium plants used to develop the nuclear arsenal (the Hanford Site in North America and the Mayak Production Association in the Soviet Union) were sources of environmental damages on a global level that were many times as harmful as the Chernobyl disaster. In other words, over the course of the four decades of the Cold War arms race, the planet suffered heavy radiation pollution. Brown clearly showed in *Plutopia* that the low-level but continuous radiation present in the plants wrecked many human lives and families and shortened the lives of thousands.

Manual for Survival combines Brown's accomplishments in the creation of historical narrative on the local level with her larger interpretive framework for the meanings of the nuclear age, and she takes this further, in the direction of oral history. The book is thoroughly documented and annotated, yet its style is measured and reflective (which is all too rare in works by historians). Brown and her colleagues are also continuously present in the text. They communicate and interact with one another and with their surroundings. However, this openly

assumed epistemological stance does not mean that Brown is tentative about her claims. The first, fourth, and fifth chapters make very plainly clear that there were groups of practicing physicians and research communities in the Soviet Union that had accumulated considerable knowledge (exceeding the knowledge of the subject among contemporary “Western” circles) of the effects of both drastic and sudden exposure (on the one hand) and prolonged exposure (on the other) to radiation and possible ways of treating it. On the subject, the work of Angelina Gulsakova, which was done over the course of several decades, merits particular attention. After the Chernobyl accident, however, this branch of medicine was in constant battle with the position, held first and foremost by physicists, that only the initial dose rates matter in terms of the severity of any potential threat. This latter view allowed central policy to portray the consequences of the accident as finite and definable, making Chernobyl an isolated and isolatable event, rather than treating it as a more comprehensive and chronic problem which has required varying responses over decades. As a cautionary step, the creation of the infamous 30-kilometre evacuation zone was a further consequence of this notion, and this zone does not actually come even close to covering the area within which nothing should have been produced and no one should have had to live for years. Radiation contamination from foodstuffs, from wood used for fuel, and from processed animal hides was continuously on the move and spreading, both in the Ukraine and in Belarus. The rise in chronic thyroid disease, stillbirths, and infant mortality was observed by many researchers and doctors working independently of one another, but their voices were so suppressed by Moscow and even directly by the KGB that the Minister of Health of Ukraine found it difficult to enforce even the few measures he tried to take on behalf of those outside the zone.

Brown also reveals the extent to which those working in the plants in which contaminated materials were processed were aware of the effects of radiation, despite misinformation and cover-ups, and she shows that there were extensive medical data indicating a jump in cases of thyroid and leukemia, data that was deliberately misread in the bureaucratic summaries that were given. Thus, there was a clear grasp of the extent of the disaster, but few and only isolated efforts were made to act on this knowledge before 1989. Brown also shows that 1989 was a turning point in the public history of Chernobyl, in which NGOs were created and previously entrenched party leaders fell from power.

In the short third and the much longer sixth chapters, Brown shares two findings which fit with her earlier work and provide a new framework for

our understanding of Chernobyl. First, she notes that the Pripjat marshes were already contaminated with radioactive pollution well before the reactor exploded. Part of Polesie, lying in the former Polish-Ukrainian border region, was a secret firing range where the Soviet leadership experimented with so-called tactical nuclear bombs. Aleksandr Marei, a Soviet biophysicist, detected the contamination in 1974 (the year in which the decision to build the plant was made), but he assumed (or at least so he contended in what he wrote) that the Caesium-137 had come from US experiments. Marei's team also showed in its research that swampy areas are particularly prone to accumulate radiation contamination.

Fact-finding missions led by international organizations, in particular the work of the International Atomic Energy Agency, also put the consequences of the Chernobyl disaster in a new context. Brown concludes that important reports issued in 1989 and 1990, which were motivated in part by military, industrial, and political interests and in part by the conservatism of the scientific world, claimed, in harmony with the Soviet leadership, that no further evacuations, interventions, or investigations were necessary. According to Brown, this complicity helped contribute to the emergence of an official consensus which leaned towards a few dozen rather than hundreds of thousands of victims, and perhaps more importantly, it also enabled the authorities to avoid evacuating even in 1990 many of the settlements that were uninhabitable. Furthermore, Belarusian doctors were still being tortured in the 1990s for wanting to know more about the effects of Chernobyl and to take action to counter them. These are very serious conclusions. The pivotal moment at which the public realized that it had been misinformed about the Chernobyl disaster contributed to the collapse of the Soviet Union, but this moment was put in metaphorical parentheses by prominent parts of the international scientific community within a year or two.

Brown's book becomes a critique of the world system when she reveals that even before the fall of the Soviet Union, research had shown quite clearly that radioactive contamination spreads easily through the consumption of forest fruits and that blueberries from the contaminated forests of the Rivne region of Ukraine are still being traded on the global market. Indeed, the European Union increased the limit in 2016 to make it easier for blueberries to reach its markets. Neither decision-makers nor the general public seem to be aware of the devastating effects of radiation pollution. As Brown observes, "The Chernobyl disaster shows that states and international organizations are increasingly failing the people they are supposed to protect" (p.307).

Drawing on decades of experience in the field and broad knowledge of her subject, Kate Brown has offered an engaging book which is both pleasant to read and potentially jarring in its conclusions. It has already gone through several editions in English and hopefully soon will be published in some of the languages spoken in East Central Europe.

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