

BOOK REVIEW

Jinyoung Park 박진영, *Science in the Face of Disasters* 재난에 맞서는 과학 (Seoul: Minumsa, 2023), 214pp.

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Jinyoung Park's *Science In the Face of Disasters* is a pioneering work based on the author's qualitative research of the humidifier disinfectants disaster (가습기살균제참사) in South Korea.¹ The humidifier disinfectants disaster is regarded as a globally unprecedented biocide disaster.² Reports from victims are still coming in today, with the most recent Committee on Humidifier Disinfectants Damage Compensation meeting to review the decision of damage levels and payment of relief benefits held by the Korean Ministry of Environment on July 3, 2025.³ When it comes to public discussion about the humidifier disinfectants disaster in Korea, it is often described as "the disaster that killed the most people in a single incident" (10).⁴ However, this description was earned through an arduous process to prove the causality between humidifier disinfectants, and the symptoms and deaths. Park reveals different aspects of science, such as science structurally ignored or serving profits and science-in-the-making alongside the disaster. The book is organized to best illustrate the processes in which scientific knowledge is formed through identification and investigation of the humidifier disinfectants disaster. To show this, the author draws upon various sources not only from documents produced through the Special

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1 I would like to acknowledge that the English book title here is Park's own translation.

2 Jinyoung Park, "The Politics of Knowledge in the Humidifier Disinfectants Disaster in South Korea: Focusing on the Formation and Reconstruction of the Standard for Damage Compensation" (Ph.D. dissertation, Seoul National University, 2022), 1.

3 Ministry of Environment (Republic of Korea), "Additional Recipients Eligible for Compensation for Compensation for Humidifier Disinfectants Damage Recognized—Total Now 5,908" (press release, July 3, 2025), <https://www.me.go.kr/> (accessed on July 25, 2025).

4 According to official statistics, as of the end of July 2025, 1,912 deaths have been confirmed among the 8,014 people who reported damage caused by humidifier disinfectants. "Humidifier Disinfectants Damage Application·Registration Status," *Korea Environmental Industry & Technology Institute Comprehensive Portal to Support Humidifier Disinfectants Damage*, last modified July 31, 2025, <https://www.healthrelief.or.kr/home/content/stats01/view.do> (accessed on August 2025).

Investigation Commission on Humidifier Disinfectants and 4.16 Sewol Ferry Disaster, but also from various public events such as seminars arranged by civil organizations such as Asian Citizen's Center for Environment and Health and research activities of different expert groups.⁵

The book begins by showing how companies ignored the warning signs of toxic chemicals in the manufacturing processes, allowing humidifier disinfectant products started to spread through supermarkets and enter consumer use from 1994 (Chapter 1). For over twenty years, consumers have been exposed, with the first related harm surfacing in 2006. In Chapter 2, Park highlights the “uncertainty” of science and shows how it gave the government a pretext to demand greater scientific consensus on acute lung diseases, causing the golden time for response to slip away. Chapters 3 and 4 meticulously trace how a small number of medical experts and civil organizations led research to uncover the causal link between the disinfectants and lung damage, and how affected individuals began to speak out and form solidarity groups. Yet, despite the knowledge produced and solidarity built by experts and civil society, Chapter 5 demonstrates that institutionalization was essential for damage compensation. In other words, establishing a legal basis for compensation does not naturally follow from the achievements of knowledge production. The author's key argument becomes clearer in Chapter 6, where the focus is on experts who transcend the boundaries of various academic disciplines—such as preventive medicine, occupational and environmental medicine, epidemiology, environmental health sciences, and toxicology—in arranging four levels of damage compensation standards and reflecting on what kinds of knowledge can help victims. By presenting new possibilities of such responsible scientific expertise, Park concludes in Chapter 7 with a call for “science in which anyone can raise a hand,” which is not about perfect research confined to scientists' laboratories within respective fields, but about science that can be made and evaluated by various members of society, thus standing with those affected by disasters.

Now that the Humidifier Disinfectants Disaster is widely recognized as a “social disaster (사회적 참사)” in Korea, Park's work particularly deserves attention as it unpacks the process by which it entered the public discussion through joint efforts of researchers, activists, and disaster-affected groups. The term social disaster became established in Korean society after the Sewol ferry disaster in 2014. The Sewol Ferry Disaster is considered to be more than a simple maritime accident, but rather a man-made disaster due to state violence, as 304 people lost their lives because of the absence of a national control tower.⁶ As mentioned in the book, the Humidifier Disinfectants Disaster is referred to as the “Sewol disaster in the bedroom” and is

5 Special Investigation Commission on Humidifier Disinfectants and 4.16 Sewol Ferry Disaster is abbreviated and often called as Special Commission on Social Disaster Investigation.

6 For readers who are interested in better understanding the Sewol Ferry Disaster, refer to the book review by Seulgi Lee on *Sewol Ferry: Revisiting the Record of April 16* in this issue.

considered the largest-scale social disaster to occur in the 2000s. The report containing the disaster investigation results of the Humidifier Disinfectant Disaster, frequently cited by the author in the book, is a comprehensive report produced jointly by the Special Disaster Investigation Committees for the Humidifier Disinfectants Disaster and the Sewol Ferry Disaster. Park shows how victims, civil society, and expert groups have worked together to fill the gaps in scientific knowledge at the intersection of two seemingly unrelated disasters. In particular, the following quote accurately points out what often hinders disaster investigations, namely, the demand for more definitive causal relationships or more research and investigation.

“Stay put” is a phrase that appears not only in the Sewol Ferry Disaster but also in various disasters and accidents in Korean society. Even if no one directly says to stay put, the very situation where no action is taken acts as an implicit pressure on victims to stay silent. (77).⁷

The question of what should be named a disaster—and who responds, with what forms of knowledge—is closely tied to the author's call to view the Humidifier Disinfectants Disaster as a “slow disaster.” In the introduction, the author draws on this concept to reframe the question of what constitutes “disaster-related harm,” by revealing invisible harms which have been slowly accumulated over time and across space due to structural ignorance.⁸ Slow disaster as an analytical tool also functions here as a normative and political appeal, as an effort to bring science squarely into the institutional arenas of law and politics to fight against the disaster injustice. In this sense, the concept of slow disaster is central in articulating the author's core argument around “science in the face of disasters.” As Chapter 7 is titled “science in which anyone can raise their hand,” the author argues that science in the face of disasters is not exclusively produced in laboratories as a fixed result. Rather, it is a science created through collaboration among all those involved in the disasters, including victims, experts, witnesses, and decision makers, open to changes in support of anybody who are affected by or care for the disaster.

[A]s seen in the case of the Humidifier Disinfectants Disaster, science in the face of disasters is not as neat and perfect as one might expect. After the Humidifier Disinfectant Disaster, experts did what they could at the time to find the cause and solution to the unknown event. Their solutions were rough and uneven, with gaps here and there, but they were immediately applied to the site, relying on the authority

⁷ This quotation is translated from Korean by the reviewer.

⁸ Scott Gabriel Knowles, “Slow Disaster in the Anthropocene: A Historian Witnesses Climate Change on the Korean Peninsula,” *Daedalus* 149, no. 4 (Fall 2020), 192-206.

inherent in their expertise. The expectation that science should provide definitive answers created a deep divide between victims and experts. (180-181).

One area that invites further exploration is the diverse backgrounds and lived experiences of the victims. While the author provides a vivid and detailed account of the experts involved—as well as the evolving relationship between science and politics shaped by these experts—the portrayal of the victims seems comparatively limited. Considering that the author's main source material and methodology come from observing various forums, symposiums, discussions, press releases, and campaigns—where the author could follow discussions among victims and experts, victims' reactions, and grasp the overall atmosphere of the events—it seems natural that there is, to some extent, a gap in the level of analysis between the backgrounds of experts and those of victims.⁹ In the book, victims are primarily represented through the official classification system of damage assessment, divided into categories such as levels 1 and 2 versus levels 3 and 4, as determined by various experts' judgment. However, Park captures sharply that the four-level standards arrayed the basis for the government to acknowledge and compensate victims but also created conflicts among victims. It is valuable that Park uncovers some of the often-hidden emotional burdens experienced by victims, such as a sense of guilt tied to compensation eligibility (166) and the resulting polarization between 'active victims,' those who must fight to have their suffering recognized, and 'passive victims,' those who, having been officially acknowledged, find themselves silenced or unable to speak out (167). As this uncovering demonstrates, Park seems to have even more to offer analytically presenting this aspect. Given that the author already conducted for Park's dissertation a substantial number of in-depth interviews engaging more closely with the tensions and hesitations among victims in raising voices, I was left wishing that more of these materials had been woven into the book itself.

Science in the Face of Disasters is particularly noteworthy for historians of science since it addresses the conditions to produce scientific knowledge and changes in the ethical foundations of science through the keyword "disaster." This book has broad academic significance beyond the history of science, such as environmental sociology and science and technology studies (STS), in that the author observes and analyzes the ways in which science is called to respond to invisible harms in connection with the humidifier disinfectants. Especially Chapters 3 (Participating Experts), 6 (To Change Society), and 7 (Science in Which Anyone Can Raise Their Hand) will be illuminating to historians of science, as Park highlights the role of scientific expertise in the face of disasters, which is constantly reconstructed, blurring the borders of experts and activists. The book is also extraordinary as it is based on thorough research, while written in easy-to-understand language, making it an appealing book that straddles the line between popular and academic books. The

9 Jinyoung Park, *The Politics of Knowledge*, 19-20.

form of this book has more than just formal significance. It contains reflections and contemplations on the meaning of publishing a doctoral dissertation as a book situated in-between the public and academia, which is expected to serve as a good example for future researchers. In addition, by connecting the author's life experiences and other contemporary disasters such as the 4.16 Sewol Ferry Disaster, the Itaewon disaster, and the Fukushima wastewater release, the book promotes the connection between theory and practice.¹⁰ Representing the bridge between scholars and activists, and for the author herself, the book documents how the author's research and experiences related to the disaster continued even after graduation. It provides comfort and courage to the readers who are living through disasters. Once again, what is scientific knowledge and who is scientist? These questions deserve the attention of historians of science in the age of disasters full of uncertainty.

¹⁰ Regarding "Itaewon Disaster," there is no distinct social consensus yet in how to call it, and "10.29 Disaster" is used as well to minimize additional sufferings and damage to local people around the Itaewon area. I here follow the author's usage of the term in the book.