

moral agency, and responsibility when things go wrong. If your elderly parent is injured by the robot, who handles your complaint? How much freedom should a robot have to interact with the world on its own?

Continuing this theme, the author then explores additional robotic applications, such as self-driving cars, military drones, and other examples to help the reader grasp the breadth of the underlying ethical concerns when autonomous machines intersect with humans. "Robots function as mirrors that show and reflect us—that is, the human being in all its facets, and with all its problems and challenges, including ethical ones" (p. 195).

At this point, the text turns to more futuristic concerns. The book's final chapters consist of three essays. First, what ethical concerns should we consider when robots become androids/cyborgs and start to look and behave like us? People begin to use terminology like "eerie" and "creepy." Second, what happens when we replace soldiers with robots? This takes us into the ethics of automated war. Third, when should we start to be concerned about our own existence? This gives rise to the post-humanist view that idealizes a time when people and technology merge into something new, like cyborgs (merged biology and technology) or uploading our consciousness into a computer (no longer needing our body). Coeckelbergh contrasts the posthuman view with what he thinks is a more useful ethic—environmental ethics. "Instead of being mesmerized by transhumanist science fiction and posthumanist fantasies about cyborgs, we should focus on real and urgent problems with the natural environment and our planet, like climate change" (p. 204). He ends on a positive note with society using robots and artificial intelligence to work for the common good to solve global problems.

I found *Robot Ethics* to be enlightening, providing a clear presentation of many ethical concerns that arise with robots. Coeckelbergh not only introduces us to the implications but also to the leading thinkers. As practitioners and as a society, we do not put enough thought into the effects our creations have on ourselves. Consider, for example, the repercussions that ChatGPT has on school assessment strategies as well as on the writing, acting, and artistic guilds, as seen in recent strikes in these professions. I have already recommended the text to my coworkers working in artificial intelligence and robotics. The text is not a warning to stop advancement in robotics but instead a call to be more reflective. I think the text would also work well in a reading or study group. There are many ideas that could be fruitfully explored in a group.

I found that the text has two minor weaknesses. An inherent problem when casting a wide net is that different subjects can be treated as the same thing. In this case, the author risks mixing standard weaknesses in

engineering or business practice, with robotics, resulting in a less clear understanding of robot ethics. For instance, is ChatGPT inherently harmful, or are the harms associated with ChatGPT a function of the way business introduced it to society? More specifically to robotics, when does smart software evolve into robots? For example, should your dishwasher be considered a robot? If it can be controlled remotely from your cell phone, does it qualify? What if we connect the dishwasher to the internet of things managed by a machine learning program that has figured out when you like to wash? At this point, some would still say that the dishwasher is not a robot, while others might say that it has become that. The internet of things has its own ethical and security problems not related to robotics; however, merging the two in a conversation by calling it all robotics lessens our understanding of robots.

I heard it once said that ethicists are great in analyzing and defining ethical concerns, but not as good in providing answers. This book raises many worthwhile questions, but if you are expecting to find solutions, then you will need to look elsewhere. The author wants us to think about these things so that we do not simply walk into the future without care. Coeckelbergh wants to identify the canaries in the coalmine, as it were. This text is an exploration and introduction to the key questions and people, not a compendium of ethical principles or solutions. I found this approach very useful but felt like I wanted a little more. A small dose of positivity would have been nice, with fewer post-apocalyptic scenarios. Although the text's purpose is more modest, it would have also benefited from some successful integration stories or theoretical integration strategies.

Even though I did not like how the book began its definition of robots (the author acknowledged the limitations of his position), I highly recommend this book as an introduction to the ethical questions and problematic situations associated with robots. Robots are in our future, whether we want them or not, so it is best to be thinking about these sorts of important concepts.

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DOI: <https://doi.org/10.56315/PSCF3-24Kirsch>

THE REVOLT AGAINST HUMANITY: Imagining a Future without Us by Adam Kirsch. New York: Columbia Global Reports, 2023. 104 pages. Paperback; \$16.00. ISBN: 9781735913766.

In Eden, the serpent lied to Eve about the forbidden fruit. She was told that disobedience would allow her to "be like God." Already bearing God's image and likeness, Adam and Eve swallowed the serpent's lie, together with the forbidden fruit. Wanting to be more than mere creatures, wanting life on their terms, they sinned against their creator. Likewise, their son Cain

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wants his way. God rejects Cain's sacrifice but does not reject Cain. Instead, God points to the root cause of Cain's sin and lays out the path to restoration. Cain's response? He kills his brother.

Throughout humanity's long rebellion against God, these two aspirations have persisted, together with their common result. The first, the desire to "be like God, knowing good and evil," goes beyond intellectual assent to intimacy with evil. And just as "Adam knew Eve his wife, and she conceived and bore Cain," intimacy with what God forbids gives birth to death. Then, unable to sin without consequences, the second aspiration is to destroy, to deface the created order and kill, to embrace death as an escape from God.

The Revolt against Humanity presents and analyzes the latest versions of these longstanding evil choices: transhumanism and Anthropocene antihumanism. Adam Kirsch well describes the heart of the transhumanist vision: the aspiration to transcend our creaturely status. Ray Kurzweil, Max More, and others seek release from all human suffering through science and technology. By human reason alone, they would obtain godlike powers, but not to please God, not to love God and neighbor. Instead, they would overturn God's decree, summarized in Ezekiel 18, that "the soul who sins shall die."

What do transhumanists think of God? Well, most have no use for the holy God of the Bible. Instead, they would create "spiritual machines," to use Kurzweil's term, or they would "create God" as members of the "Terasem transreligion," founded by Martine (formerly Martin) Rothblatt, whose disdain for traditional accounts of humanity and human limitations is expressed in her book, *From Transgender to Transhuman: A Manifesto on the Freedom of Form*. With such a god, transhumanists believe that even the heat death of the universe is not an obstacle. Science will surely reveal ways to alter the very laws of the universe, won't it?

Ready to join the transhumanist movement? Few believers would. Instead, they would agree with Christina Bieber Lake's analysis of transhumanism, including the claims of so-called Christian Transhumanism. Her plenary address at ASA's 2021 virtual annual meeting—with responses from John Wood, William Hurlbut, and Brent Waters—shows how its eschatology fails. Technoscientific hyper-postmillennialism presumes that salvation is achievable by human effort. It has no use for Christ's sacrifice for our sins, destroying fundamental Christian doctrines, such as hope in God and divine grace.

Kirsch is no transhumanist. Instead, he sees transhumanism as an optimist's escape from the problems of this world. Yes, those problems may, at least in part, be traced back to science and technology run amok: the depletion of natural resources, pollution and climate

change, species extinction, and the broader degradation of nature. These ills threaten what matters most to transhumanists: the mind, with its ever-expanding knowledge, driven by science.

What is the transhumanist solution? Acknowledging that science and technology can be problematic, they still believe more will do the trick, especially as they produce advances in computers and information technology. After all, though minds have emerged from our brains, they see no reason why they must be biological; artificial intelligence will serve just as well, nay, even better. After the singularity, when computer intelligence exceeds that of human beings, biological life will be obsolete. In its place, life will continue in computational systems, human minds being uploaded, either from the living or the dead, their brains preserved through cryonics.

Is transhumanism too optimistic? Perhaps, but Kirsch is concerned about a darker alternative: Anthropocene antihumanism. It sees humanity as an unfortunate and unnatural infestation of Earth. Rather than enhancements to human life, it believes eliminating humanity is the answer. Nature, interpreted as inherently good and robust, would recover. Its wonders would thrive, even if no humans were around to observe it. Indeed, antihumanists seek to eliminate human perspectives of what it means to thrive; anthropocentric definitions got us into this mess, so it is critical to move past them.

Kirsch concludes with a quick survey of the spiritual dimensions, broadly defined, of the rebellion by anti- and transhumanists. He mentions the apocalyptic elements of Christianity and other religious traditions, the hopelessness of H.G. Wells as he anticipated the extinction of human life, Nietzsche's nihilism, Foucault's concerns about "biopolitics," and the general loss of meaning that has accompanied the rise of godless modern experimental science. With this background, Kirsch looks to the future, but not with confidence. "We can only hope that we don't have the bad luck to be born into the last generation, the one that sees humanity as we have known it disappear."

Kirsch does not offer a Christian response to the revolt he describes; his spiritual commitments are not clear. Still, *The Revolt against Humanity* offers a provocative look at where progress has taken us, one Christians should consider. Advances in science and technology offer new ways to fulfill the first and second great commandments, respectively. However, apart from faith in God as their source, they cannot address the despair of a frustrated world.

I recommend Kirsch's book to Christians that view science and technology as inherently good and beneficial. Its few pages are thought-provoking, giving believers many opportunities to reflect and check their Bibles

for God's answer to human sin: the gospel of Jesus Christ. I also recommend a "Thinking in Public" interview by Albert Mohler: "The New Religion of Artificial Intelligence and Its Threat to Human Dignity—A Conversation with Adam Kirsch," recorded April 12, 2023. It is available online at <https://albertmohler.com/2023/04/12/adam-kirsch>.

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DOI: <https://doi.org/10.56315/PSCF3-24Conis>

HOW TO SELL A POISON: The Rise, Fall, and Toxic Return of DDT by Elena Conis. New York: Bold Type Books, 2022. 388 pages. Hardcover; \$30.00. ISBN: 9781645036746.

Suppose you were creating a new college course on the interaction between chemistry and public policy (this happens to be true for this reviewer). Elena Conis's *How to Sell a Poison* would be a nearly perfect book to read as you set your syllabus. The author presents a thorough historical context with sufficient, but still accessible, chemical detail. The book does not gloss over complexities in the interactions between politicians, industry, and environmental advocates, but it also manages to compel the reader with winsome writing and a peppering of human-interest narratives. And while the book inexplicably does not have a complete set of references, it is an excellent resource for a reader who wants to develop an understanding of the history of DDT and why there are some who are calling for its continued and increased usage to combat malaria.

The structure of *How to Sell a Poison* is mostly chronological, including some information of the early uses of DDT by Swiss potato farmers, the promotion of its use by the United States military in World War II, an explosion of usage in the 1950s and 1960s as both an agricultural and a consumer product, the mounting evidence of DDT's negative environmental impact, advocacy and legislative action in the 1960s and 1970s, and the ongoing debate regarding continued or increased use of DDT to keep malaria in check. This historical structure is written in a compelling way, with most chapters headed by an account of one of the primary actors in an ongoing drama created by benefits and dangers of the pesticide's use. Going far beyond the well-known story of Rachel Carson and her seminal *Silent Spring* (1962), we meet chemists, soldiers, physicians, patients, agricultural workers, government scientists, politicians, supreme court justices, concerned citizens turned plaintiffs, journalists, environmentalists, industry executives, and lobbyists. By the end of the book, the reader will feel that they have been inside the mind of all of the important actors in the multiact drama that was and is DDT.

Conis includes sufficient chemical detail even while she keeps the book accessible to a general audience. The

reader comes to understand the molecular structure of DDT, how it is synthesized, why it is persistent in the environment, how it kills insects, and why it increasingly bioaccumulates going up the food chain. These details are not presented in a tacked-on chapter, but in the historical context as needed to understand the DDT narrative.

One of the greatest strengths of the book is that it does not gloss over the complexities or nuances in the DDT story. This is important to gain an authentic understanding of how DDT became ubiquitous and how it fell out of favor. Yes, the story of Rachel Carson's *Silent Spring* is included, but so is the congressional testimony that followed and the ultimate lobbying of tobacco interests encouraging a DDT ban as part of a scapegoat campaign to cover up their own cancer problems. The reader also comes to understand the crucial role that the DDT controversy played in the establishment of the U.S. Environmental Protection Agency and the Environmental Defense Fund. A true historian, Conis gives you a compelling behind-the-scenes understanding of who held influence regarding DDT and how their influence was wielded.

Nearly every chapter begins with a narrative regarding one of the main actors in the DDT story. This feature makes the book easy to read and compelling. You see the promise and the problems of DDT from the point of view of a land developer, a chemist, a government scientist, a physician, a health department officer, a member of congress, an organic gardener caught in the overspray, an attorney, an immigrant agricultural worker, a bird enthusiast, the surgeon general, a university professor, a journalist, the EPA director, the mayor of a small town, and several others. As their stories are told, the reader is led to an understanding of the many facets of DDT in an organic and interesting way. Each story is backed up by references, as appropriate, to letters, articles, books, or government documents. But even as the stories are historically documented, they read more like a story than a history textbook.

The one frustrating aspect of the book for this reviewer is the lack of a comprehensive bibliography. The author refers to many documents in the chapters, but then does not include a complete reference to all of them so that the reader can find those documents. This will not bother most readers, but as an instructor designing a class, this reader is seeking primary documents (public laws, scientific journal articles) to give to my students to directly illustrate the connections between chemistry and public policy.

Overall, this is an excellent book for anyone who is seeking a thorough and nuanced understanding of DDT.

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