Shirley's Picks for Books on Climate Change November, 2024

What should we do to address climate change? **Electrify: An Optimist's Playbook for Our Clean Energy Future**, by Saul Griffith (2021), presents a blueprint for how to eliminate carbon emissions, by electrifying everything while shifting to clean energy sources of electricity. One insight is that by doing this we halve our energy needs. (A quarter of fossil fuel energy combusted to make electricity is lost as waste heat, additional savings come from the greater efficiency of electric cars and heating appliances, and energy no longer goes to mining and refining fossil fuels.) The author, an engineer and inventor, presents US energy flows in numerous spaghetti-like Sankay diagrams. You can find a free earlier version of this book online (https://www.rewiringamerica.org/research/rewiring-america-handbook) or watch a Saul Griffith video (one billion machines, 2021, https://www.youtube.com/watch?v=iEOPx2X-EtE).

Our US electrical grid is both fragile and critical for expanding green energy. **The Grid**, by Gretchen Bakke (2016), takes us through the history of the grid to explain its patchwork structure, along the way detailing the 2003 East Coast blackout, how wind turbines in the Altamont Pass came to be Danish and not American-made, the failed SmartGridCity of Boulder, Colorado, and more. The author, a Cultural Anthropologist interested in technological transitions, discusses current challenges and foresees a new kind of grid infrastructure that is "little, flexible, fast, adaptive, local," the opposite of what we have now.

We know what to do about climate change and we have the tools we need to do it. Why isn't it happening? **Don't Even Think About It**: **Why Our Brains Are Wired to Ignore Climate Change**, by George Marshall (2014), examines the way we relate to climate change; how this is shaped by psychological, cultural, and social influences such as identity and group loyalty; how it is possible for people to know but not *feel* that climate change is a threat. This is an entertaining and thoughtful look at climate change from a different angle, helpful for times when it seems hard to understand people.

For a personal point of view, try **Saving Us: A Climate Scientist's Case for Hope and Healing in a Divided World** (2021). This grew out of a 2018 TED talk, "The most important thing you can do to fight climate change: talk about it," given by the author, Dr. Katharine Hayhoe, a Christian atmospheric scientist living in Texas. She offers tips on what works and what doesn't (facts aren't enough!) gleaned from meeting with oil and gas executives, chatting with local church members, and other climate conversations. She provides a brief overview of the science, what people are doing, and why action is important. Here is how one person is dealing with climate change in real life, admirably talking to people, seeking connection over division, building community.

The Carbon Footprint of Everything, by Mike Berners-Lee (formerly titled "How Bad Are Bananas" in 2011, updated 2022), was written after the author walked around a UK supermarket wondering what should a carbon-conscious consumer buy. The *full* climate change impact of things is almost impossible to measure, but it's worthwhile to go through the exercise. The carbon footprints of polyester, acrylic, and cotton pants, for example, are derived not just from production, but also useful life, laundering, landfill, and water costs. The numbers are less important than the perspective, scaling from very small (less than 10 grams of carbon dioxide equivalents) to very big (billions of tons). Enjoy the whimsical choices, such as a newspaper, a night in a hotel, and space tourism, and pick your battles.

Climate change has impacts on us. In **The Heat Will Kill You First: Life and Death on a Scorched Planet**, by Jeff Goodell (2023), we learn how heat affects human bodies, that heatstroke can also strike the young and fit, the role of hydration, how heat can kill. Chapters on other heat-related topics, such as urban heat, effects on food, the spread of vector-borne infectious diseases, air conditioning, and naming heat waves, are enlivened by accounts of people and events, to make a collection of very readable, if not in-depth, articles.

In one package, **The Climate Book**, created by Greta Thunberg (2023), comprehensively surveys climate change – the science, how it affects Earth systems and humans, what is being done, and what is needed – in chapters written by a who's-who of subject matter leaders. Issues of equity and justice are not neglected. The multi-author approach occasionally obscures how the parts fit together and their relative weight, but this is a minor quibble. Greta Thunberg's frank and fierce voice provides the framework.

Fiction allows us to imagine how climate change might unfold for another person in another place. **Flight Behavior**, by Barbara Kingsolver (2012), tells the story of Dellarobia, a housewife in Appalachia, who sees a lyric vision, a "lake of fire." What this turns out to be relates to climate change and brings visitors to town. Dellarobia contrasts the outsiders' lives with her own and becomes more aware of the wider world. Changes in Dellarobia's life are tied to the changing planet.

The Overstory: A Novel, by Richard Powers (2018), makes trees significant in several storylines. A chestnut tree watching over four generations of a farm family gives us a sense of the different timescales lived by trees and humans. We share a character's horror at the stumpy desolation of a clear-cut national forest. Atop a giant redwood, two human tree-sitters experience the ethereal ("Fog coats the canopy.... the tufted spires of nearby trunks stand swirled in the gauze of a Chinese landscape."), find balance (she leans and he tips to compensate), and feel the interconnection of living things. Stop and see the trees, they are wondrous and mysterious and worth fighting for.

Apocalypse boils down to survival, boring in repetition. Dystopia and utopia speak to today's ills but are depressing or unrealistic, generally. Maybe what we need are "thrutopias" that show how we get from here to a better there. An example is **The Ministry for the Future**, by Kim Stanley Robinson (2020). After a horrific opening, we see people taking action, to form a ministry, to slow the melting of Antarctic glaciers, to create a carbon coin. Stories from around the world, musings on economics and ethics, and even non-human voices help convey the scope of climate change. The solutions are not just science fiction, but reflect and salute the work being done today by many different groups. Some readers might find the disparate threads disruptive or dry, but everything comes together to build a vision of a climate change future in which we work together on what needs doing.

Finally, these three books on climate solutions didn't quite make the list. **Regeneration** (2021) and *Drawdown* (2017), both from Paul Hawken, are handsome compendia of climate solutions, perhaps better reference volumes than books to read through. I like the greater prominence of oceans, forests, wilding, and lands in *Regeneration*. In **How to Avoid a Climate Disaster: The Solutions We Have and the Breakthroughs We Need** (2021), Bill Gates writes clearly about climate change and offers his practical framework for evaluating needed innovations. However, we shouldn't rely on breakthroughs to save us, and we don't need a solution for cement to rapidly deploy solar and wind today. **No More Fairy Tales: stories to save our planet**, edited by DA Baden (2022) is a pleasant way to read about climate solutions. Some of the thrutopian short stories are from science fiction authors (including excerpts from *The Ministry for the Future*). For others, experienced writers were teamed up with climate experts, with enjoyable to earnest results.

(By the way, I use the word "solutions" not to imply that climate change has a solution or fix, but as shorthand for actions to mitigate or adapt to climate change, the things we can do to manage it.)

I hope you find a book on climate change that interests you. To make my selections, I considered readability, positivity, and content, with a preference for climate solutions, and aimed for a variety of approaches. These are books that I found helpful and meaningful. Many topics await further exploration. Thank you to DF, JG, VN, LL, JER, DL, MR (sorry if I missed anyone) for book ideas. I welcome more book suggestions for next year's list and please leave a comment to share your climate reading!