



A CHRISTIAN FIELD GUIDE TO TECHNOLOGY FOR ENGINEERS AND DESIGNERS

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RICH REFLECTIONS FOR OUR TECH-SATURATED WORLD

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IN THE MID-90S, STUDENTS STUDYING ENGINEERING at Dorcht College (now Dorcht University) took three semesters of physics using a textbook authored by David Halliday, Robert Resnick and Jearl Walker. As one of those students, I loved how each chapter started with a puzzling question that drew me into engaging the material, like “What size is a lightning bolt when it strikes the earth?”

I’d like to draw you into a good book in the same way:

- How did Robert Moses build racism into his bridges? Read chapter 3.
- How is the Christian concept of virtue distinct from Aristotle’s conception? Enjoy chapter 5!
- Why was the electric car marketed towards women in the early 1900s? Pay attention in chapter 7.

A recent publication, *A Christian Field Guide to Technology for Engineers and Designers*, thoughtfully and winsomely responds to more questions than just those. Of the three authors – Ethan J. Brue, Derek C. Schuurman, and Steven H. VanderLeest – I’ve only met one. But together, it feels like the three of them could be named the “Inklings of the Technology World.” Like J.R.R. Tolkien and C.S. Lewis, these three each seem to have a deep grasp of their field, a wide engagement with books and culture, and keen insights into the movements and motivations of society. We also benefit from hearing each of their distinct voices as they take turns authoring chapters of the book.

As I am not active in engineering, but instead serve as a university campus chaplain, I read this book alongside of a handful of engineering students. As students in a public university, they were introduced to a ‘faith-filled’ engagement with their field. Such a posture deeply resonated with them.

Chapter 3 on “Field Responsibility” made intuitive sense to them as it debunked multiple myths. Through a variety of illustrations, the book demonstrates how our design choices are not neutral and neither is technology itself. As designers, we often imbue our creations with bias – for instance, did you know that modern digital imaging technology still carries the remnants of an older bias, displaying white skin better than darker skin by default? Is there a way to design new technology more responsibly?

The students found some of the chapters more challenging to digest. For instance, the chapter exploring Reformed philosopher Herman Dooyeweerd’s “modal aspects of reality” would have benefited from a couple classroom conversations with back-and-forth engagement over a handful of practical examples. The main idea, though, that engineers should avoid reductionism as they consider optimal designs came through. Christian responsibility with God’s world means we need our evaluation to be guided by more than efficiency in energy, scale and cost. Holistic design includes other aspects, including engaging questions of justice, sustainability, and attending to the health and aesthetic experience of the user.

As the book concludes, the students were very thankful for the final chapter. Here, the authors imagine an exchange of letters between a young engineer and his former professor functioning like a mentor. These letters get into some very practical realities. Filled with grand dreams of engineering in ways that expand the kingdom of God, this

young engineer finds himself in the “real world” of cubicles and micro-sized tasks. What does faithfulness look like here? The correspondence grounds many of the grand concepts into daily faithful practice – a good gift to conclude the book.

If there was a second edition of this book, I’d be interested in a few more conversations. The first is a conversation around the authors’ use of “bias” and their framing of “specialization.” Besides reading this book alongside three engineering students, I also invited two engineers to read it, each with more than twenty years in the field. Both engineers expressed concern regarding the book’s repeated emphasis on bias. It is true that a hammer is biased towards nails, so it is less helpful with screws. The authors were pointing to how “we shape the tools, and then the tools shape us;” in other words, technology is not neutral but orients the user toward particular ends. The critique from the engineers was that their absolute delight in designing for “specialization” was missed. To follow the analogy, there’s a time for hammer and nails, and there’s also a time for a screwdriver and screws. Knowing what tool is called for is part of understanding the diversity of God’s world. How is “specialization” a good gift in a world of created diversity?

I would also want to ask the mentoring professor an additional question. The mentor spends time corresponding with the Christian engineer how to hold firm to Sunday as the Christian day of worship and rest. But my personal engagement with people of other faiths would push me to ask, “And professor, how and when should I also advocate for others, and not just myself? What are your thoughts about advocating also for my Muslim

colleagues to have flexibility on Fridays and my Jewish colleagues to have flexibility on Friday afternoon and Saturday?” Finally, I was surprised at how “North American-centric” the book’s examples of technology were. There are surely examples of “dreams taking flight” and design examples from other places around the globe.



Author Derek C. Schuurman speaking at book launch.

So...who should read this book? It’s a perfect fit for anyone working or studying in the field of technology – even reading it as a group (there are helpful discussion questions for each chapter). I can imagine a parent reading it to better understand their child in a computer science or engineering program. But it’s also quite accessible for anyone interested in hearing from the “Inklings of Technology” themselves. It’s not just a book for engineers and designers; it’s an open door into some significant conversation about how to think about technology in our tech-saturated world. ✈️



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