

Book Reviews

this period. At the same time, human experimentation begins to be regulated by states, but the regulation was so elementary that practices were allowed that would not be tolerated in our time. Concerns with animal experimentation reemerged in the twentieth century when polio research, strongly advocated by Franklin Roosevelt, a victim of polio himself, claimed a striking number of rhesus monkey lives (chap. 6). As an example, in the 1950s, the United States imported from India 200,000 rhesus monkeys per year for polio research. Despite the polio vaccine's success, primate research appalled the public, especially when behavioral research on primates revealed the emotional depth and social intelligence of these animals. Animals came to be seen no longer just as machines, but as our cousins who, like us, have consciousness.

The last chapter begins by depicting the Nuremberg War Crimes Tribunal of 1946, which led to the first written set of guidelines for human experimentation. Up until this time, there had been little consensus or regulation in using humans for experiments, let alone with the requirement that they must be mentally competent, uncoerced, and fully aware of possible consequences. It is hence not surprising that scientists under the Nazis defended themselves against charges of abuse and euthanasia of human subjects by paralleling their conduct with the practices of contemporary American scientists. American practice was exemplified by the Tuskegee Study of Untreated Syphilis in the Negro Male, conducted from the 1930s to the 1970s, in which the United States Public Health Service left four hundred black syphilis-infected males untreated, without telling them that their treatment had been stopped, in order to study the natural development of untreated syphilis. More than one hundred died as a result. Inconsistency in research ethics can also be found in the case of Japanese scientists, who, in contrast to Germans, were pardoned for their research conduct during World War II in return for providing information to the United States. Nonetheless, through the twentieth century until today, the level of public awareness and national regulations on the use of animal and human subjects has been progressively elevated. Yet, accelerated advances in research technology, including the latest breakthrough of gene editing, and expansion of research fields, continue to add complexity to ethical discourses.

I was impressed by Guerrini's vast knowledge of the historical development of biomedical science, including the events that matter to ethical issues around use of animal and human subjects in research. At the same time, she manages to make the book concise. While the book concerns the ethics of animal and human experimentation, it is certainly not an ethics or philosophy book but rather a story book. That is, while the book raises

ethical questions in an unbiased manner, the chronological organization of this story does not conveniently lend itself to efforts to systematically examine or establish ethical principles on these matters. Nonetheless, a deeper understanding of the historical background to the different perspectives encountered in these stories enables one to make more-informed assessments of present-day perspectives. The book can be particularly helpful for those who do not have a biomedical background but wish to engage in contemporary ethical discourses, as well as for those who have rarely thought about the issues at all, often under the assumption that science has justly treated human or animal subjects. Finally, reading these accounts from ancient to contemporary times will certainly help one realize that what is the norm today was not necessarily the norm in the past, nor will it be in the future. Therefore, scientists like me need to humbly accept that we will someday be judged; I believe this knowledge will help us use our best conscience in the present.

Reviewed by Kuwook Cha, Postdoctoral researcher in Physiology, McGill University, Montreal, QC H3A 0G4.

DOI: <https://doi.org/10.56315/PSCF9-23Lorrimar>

HUMAN TECHNOLOGICAL ENHANCEMENT AND THEOLOGICAL ANTHROPOLOGY by Victoria Lorrimar. Cambridge, UK: Cambridge University Press, 2022. 300 pages, bibliography, index. Hardcover; \$120.00. ISBN: 9781316515020.

In her introduction, Victoria Lorrimar states that

The goal of this book is to deepen our understanding of human creativity from a theological perspective, and to resource Christian theology (and more broadly the church) for reflecting on the possibilities for enhancing human capabilities through (plausible or far-fetched) technologies. (p. 8)

Given the contemporary relevance of this topic, and that she writes "within an (assumed) understanding of salvation as effected by God and not by us" (p. 6), her work will be of special interest to a number of readers of this journal.

Lorrimar addresses the movement known as transhumanism and major themes associated with it: radical life extension, hedonic recalibration (replacement of pain and suffering by an abundance of "good" feelings), moral enhancement by technological or pharmacological means, and mind uploading. She notes that there is considerable diversity of aims within the transhumanist movement, and that not all those that endorse some of these enhancements would identify as transhumanists.

So how should Christian theology respond to technological enhancement of human beings? Lorrimar argues

that the key is an understanding of human creativity in the context of the doctrine of creation, under the metaphor of “co-creation.” She rejects the view prevalent in many Christian circles that human technological enhancement constitutes “playing God” and should therefore be dismissed out of hand. Instead, she explores two broader models that might assist with developing an appropriate theological response.

The first model she discusses is the “created co-creator” model proposed by Philip Hefner. After explicating the model through citations from Hefner’s works, she observes that “his particular model contributes enormously to contemporary accounts that explicitly address questions of human technological enhancement” (p. 133). Yet, while acknowledging the fruitfulness of Hefner’s model, Lorrimar also notes a number of places where Hefner’s model diverges from traditional Christian understandings regarding God and the nature of sin and evil. She also critiques his model for “an overemphasis on rationality and neglect of the imagination” (p. 134).

Lorrimar devotes a chapter to the importance of the imagination, and also refers to fiction works—especially science fiction—throughout her book. She contends that because “the imagination takes a central place in ... transhumanist visions of the future ... a theological response will require attending to the imagination also” (p. 135), and later states “the central question of the present work is to consider how a greater focus on imagination might equip and expand current theological responses to the challenges of human enhancement” (p. 169).

She then proceeds to discuss a second theological model by drawing on the writings of J.R.R. Tolkien, who created imaginative worlds within a framework which regarded each person as a “sub-creator.” Lorrimar contends that this model provides a foundation for addressing questions that are rarely addressed in discussions of human enhancement such as “What is the good life?” and “What ought human flourishing to look like?” At the same time, the use of Tolkien’s model is complicated by his overall negative view of humanity’s preoccupation with technology, seeing it as tending to destroy virtue (exemplified, for example, by a character like Saruman in the *Lord of the Rings* trilogy). She cites with approval the assessment of Gregory Peterson:

To sub-create is to imitate or to work on what has already been thought out. It may imply initiative on the local level, but it reminds us that the master task always belongs to God. The implication of co-creator, however, is radically different, for it suggests that we are as much in control or responsible for creation as God is. It suggests that there is

no blueprint for the future; the future is open, not determined. (p. 201)

In the last part of the book, Lorrimar develops a synthesis which draws on the strengths of both models as well as the work of others. “If a theology of humans as co-creators is to contribute to reflection on human enhancement technologies, it must be embedded within a context that attends to virtue” (p. 217). Lorrimar calls this synthesis “a vision of moral co-creation,” which she develops in the form of ten commitments (stated in summary fashion on p. 297):

1. Humans are products of a creative “evolutionary” process.
2. Creativity is central to human agency and responsibility.
3. Human creativity is modeled on divine creativity.
4. Scientific insights should be respected and incorporated into an understanding and description of what it means to be human, without reducing theological and philosophical claims to scientific ones.
5. Technology is a legitimate exercise of human co-creativity.
6. Humans are storytellers and myth makers at their core, with narrative central to the way in which we understand the world.
7. The formation of the moral imagination requires our attention, including the diversity of stories which shape our moral imaginary.
8. Embodiment is crucial for imagination and understanding.
9. Technology must not instrumentalize non-human nature.
10. Elements of the vision of transcendence inherent in transhumanist thought can be reclaimed as central to a Christian imagination.

She then applies this synthesis to the various themes listed earlier that arise from human enhancement technologies.

This book grew out of the author’s doctoral research under Alister McGrath at Oxford University, and that is arguably the source of a major weakness for the general reader. Of necessity, a doctoral dissertation must interact broadly with existing literature in the field; but for the reader who is not a specialist this can obscure the central ideas—at least that’s what I found when reading the book, and one which I suspect other readers would be likely to experience as well. That having been said, the general question the book addresses is an important one, and Lorrimar’s exploring of issues foundational to the development of a fruitful theological approach would likely be relevant to someone wishing to develop

Book Reviews

a theological response to some aspect of human enhancement. In my opinion, the Christian public would benefit more from a second book by this author that seeks to make the central ideas more accessible to the nonspecialist, perhaps drawing on emphases in her first and final two chapters.

Reviewed by Russell Bjork, Professor Emeritus of Computer Science, Gordon College, Wenham, MA 01984.

DOI: <https://doi.org/10.56315/PSCF9-23Godde>

REACHING FOR IMMORTALITY: Can Science Cheat Death? A Christian Response to Transhumanism by Sandra J. Godde. Eugene, OR: Wipf & Stock, 2022. 98 pages. Paperback; \$18.00. ISBN: 9781666736748.

This short book considers what it means to live in a world in which transhumanism has taken root. Written from a Christian perspective primarily for a general Christian audience, it is nonetheless also for others who, the author hopes, will be “inspired by the invitation of Christ to find true and everlasting life in him” (p. xiv).

Exploring the importance of embodiment (especially from a biblical perspective), the nature of personhood in the technological future, as well as the convergences and divergences between transhumanist and Christian visions, Sandra J. Godde—an artist and lecturer in Christian Studies at Christian Heritage College in Brisbane—takes up the following guiding questions: “Will cybernetic immortality ever trump the Christian hope of resurrection from the dead and the life of the world to come?” and “Is [transhumanism] desirable for human flourishing, or consistent with faith in biblical redemption?” The overall objective, here, is “to resource Christians to think deeply and respond to the transhumanist agenda regarding death and immortality” (p. 6) as advances in technology continue to form us as human beings (pp. 18–19).

The author begins with a quick and very general overview of transhumanism, summarized as “man improving himself by merging with technology” (p. 2). Godde pays particular attention to technological immortality and to the larger question of what, exactly, we ultimately desire for ourselves as individual human beings and, collectively, as a species.

In the first chapter, Godde speaks to how transhumanist ideas have infiltrated popular culture, “endowing technology with a religious-like significance bordering on worship” (p. 8). As cases in point, the author goes on to highlight a number of movies and literary pieces, hardly any of which are favorable depictions of technological use by human beings. In the chapters that follow, she goes on to compare and contrast Christian and transhumanist worldviews, looking primarily at

the nature of humanhood and creatureliness, the value (or not) of being limited, eschatology, deification, the concept of the *imago Dei*, and the necessity (or disposability) of the body.

This last point frames much of the discussion. The Christian tradition’s affirmation that “we are our bodies” (with emphasis here on the centrality of the body in Christian teaching on the Incarnation and the Resurrection) is completely at odds with the transhumanist quest to technologically transform the biological body (or, very simply, to do away with it altogether). Working toward a more perfect, as it were, expression of the *imago Dei* is quite different, the author notes, from striving to become *Homo cyberneticus* (p. 19).

Although the penultimate chapter (“Towards a Christian Ethical Framework”) does not really take up the constructive, balanced, or critical ethics discussion that I was hoping for (the title itself suggests that the chapter was meant to be preliminary), it offers a helpful list of those aspects of human nature that we ought to preserve and defend. This is great fodder for Christian readers, who will want to continue mulling over the question of what is valuable and indispensable about being human.

The overall brevity of the book (there are only about 73 pages of text), which is punctuated by some degree of repetition, means that the author does not dive into a rigorous analysis of the pressing and important questions that she asks throughout. For example, I would have liked to read a more nuanced representation of the diversity that exists in transhumanist thought regarding a number of issues raised here; I would have liked a deeper engagement with how transhumanists handle the concept of the “transcendent and intangible soul,” especially if it is, as the author says, “the essence of who we are” (p. 10); and I would have liked to learn more about Godde’s understanding of how, in the Incarnation, Christ validates “the good design” of the unenhanced human body (p. 26).

The author’s aim, here, is to introduce Christian readers to the conversation, which she does in an insightful and accessible way. In the end, she wants to help equip the Christian reader to think about the big, existential questions that are brought to the fore in the pursuit for immortality that is shared by Christians and transhumanists alike. Although Godde is unreservedly critical of transhumanism, I very much appreciated her perception of transhumanists as a “new breed of fellow travellers who also see a promised land” (p. 2).

Reviewed by Cory Andrew Labrecque, PhD, Associate Professor of Theological Ethics and Bioethics, Vice-Dean, Faculté de théologie et de sciences religieuses, Université Laval, QC.