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Forging Our Future: A Review of The Synthetic Age

Abstract

"Part of Preston's argument is for a profound improvement in scientific fluency in the population, but it should also be for a stronger behavioral response as well."

Posting about the book *The Synthetic Age* from *In All Things* - an online journal for critical reflection on faith, culture, art, and every ordinary-yet-graced square inch of God's creation.

<https://inallthings.org/forging-our-future-a-review-of-the-synthetic-age/>

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in things

July 9, 2020

Forging Our Future: A Review of *The Synthetic Age*

Jeff Ploegstra

Title: *The Synthetic Age: Outdesigning Evolution, Resurrecting Species, and Reengineering Our World*

Author: Christopher J. Preston

Publisher: MIT Press

Publishing Date: February 19, 2019

Pages: 224 (Paperback)

ISBN: 978-0262537094

In this provocative book, Christopher Preston presents us with an emerging panorama of the future, which he invites us to help shape. He convincingly argues that we currently, and will increasingly, modify the entire planet from the microscale to the macroscale. He says, “Our signature is now evident on every square inch...” (xv). By presenting the reader with insight into current and emerging technologies, he demonstrates the capacity that already exists to alter everything from carbon skeletons to genomes to the climate.

Preston then looks at some of the possible implications and applications of these technologies and draws out various moral and ethical questions through the voices of historical and contemporary scientists and philosophers. He also argues that the shape of the future should not be dictated by the whim of the market, or an elite technical class.

The book is very accessible in alignment with the author’s clear intent throughout to draw the public into conversation about the future of our planet and, indeed, our very

selves. Through concrete examples and meaningful analogies, he clarifies the nature of the technologies that have emerged and the rate at which we are adopting them. He repeatedly asserts that because we can now *understand* so much more, we are now morally responsible for the future. His leaning appears to be that we are already altering our world (just like every other organism on the planet) so we need to start doing it more intentionally toward shared goals; everyone should have a voice.

This brings me to an important point that I think needs more examination through a Christian lens. What of the voiceless creation? Will humans only consider human objectives and desires? I would consider this incredibly short-sighted from a broader Christian view of the value that the whole of creation holds before the face of God. I also consider it likely that we will destroy ourselves bit-by-bit should we neglect the flourishing of the rest of the creation. I seriously question our ability to do this well given the complexity and deeply connected nature of creation. Preston does acknowledge the questions regarding complexity and interdependence but seems to feel that we have no choice but to push forward.

In the first couple of chapters, Preston addresses nanotechnology. Nanotechnology is not just about tiny robots, as is so often portrayed in science fiction (though naturally occurring enzymes kind of are just that), but also the incredible properties that emerge when we deal with materials at the nanoscale. In his discussion of novel material properties, he clearly articulates that that if a technology is truly novel, it will have truly novel consequences that need careful scrutiny and forethought.

One example he focuses on is energy. He says,

In the realm of energy, nanostructures designed for their thermoelectric properties can capture waste heat from wherever it is leaking and turn it back into electricity. Developments in nanotechnology are already contributing to more efficient solar technologies that can feed more powerful and more quickly rechargeable batteries.”
(12)

While this is laudable, it fails to reassure me. Why should we believe that with cheaper, more abundant, and more efficient energy we won't simply find more ways to use it rather than reduce our use of more polluting technologies? Further, this will increase our capacity to modify our world profoundly in other ways. It could easily lead to even greater environmental health concerns and larger opportunity gaps between those who have access and those who do not. While the author clearly signals an intent that “the shape of the future should not be decided by the technical elite but by careful and informed popular choice,” (xxi) the fact that access to technology is a major driver of discrepancies in opportunity for humans gets little attention. As technologies are

adopted, greater power will require greater regulation and accountability—whether by law or personal ethic. This power/responsibility ratchet is implied throughout, but a solution is never presented—perhaps intentionally. Preston is quite careful not to be prescriptive in the book, other than to say that the future should be decided by everyone.

As I read this book, I kept thinking that we are seeking to fix, with technology, problems we should be fixing with changes in our individual behavior. Mitigating with science the problems that we create through poor choices diminishes the need for moral reasoning. It allows us to become ethically “unfit” and could easily lead to an idolatrous view of science and innovation as we wait for the next innovation to save us. Increasing personal power through direct access to new technologies as we decrease the direct need for moral reasoning seems disastrous. Of course, we can put regulations in place, just as we have done for cell phones, guns, personal computers, and cars. But, if we can’t properly understand the technology, and we become out-of-practice in making ethical decisions, we can’t effectively regulate anything. A world of few apparent consequences is a world of little consequence. Part of Preston’s argument is for a profound improvement in scientific fluency in the population, but it should also be for a stronger behavioral response as well.

The author does highlight the law of unintended consequences. He points out that humans are not used to encountering nano-materials frequently and intimately in our daily lives (14). In speaking of nanomachines, he relates the potential disaster highlighted by nanotech expert Eric Drexler in his book *The Engines of Creation*. Drexler describes the potential for self-replicating, self-fueling nanobots to get out of control and consume all of the biomass on the earth. While this is something to be wary of, in many ways such machines already exist. Preston makes the connection to biology when he begins discussing enzymes and biomolecular engineering. However, the obvious biological connection is to bacteria, fungi, protists, and viruses. Interestingly enough, even though these things can definitely cause significant impacts, they tend to be self-limiting. It is interesting that we seem to fear this less in larger organisms. Although, perhaps that is part of the point of the book left unspoken. We should fear this in ourselves—self-replicating, incredibly inventive machines fueling their replication relatively indiscriminately off the material they find around them, altering all life into something unrecognizable.

As Preston begins to address larger scale issues related to ecosystems and biosphere level manipulations in later chapters, another thinness of the book emerged relating to the rate, degree, and scope of change. Most of the technologies and changes addressed by Preston are presented as either/or propositions and, on the whole, perhaps they are. Inevitably, some changes we make will affect everyone in profound ways. However,

other decisions can be made in less uniform ways across the globe. Preservation of historical habitats (or at least slowing their rate of change) is not incompatible with specific alteration of other landscapes. Unfortunately, there are big picture considerations about 1) how much of each should be done 2) by whom, 3) at what cost, 4) who benefits, and 5) who bears the cost (financially, ecologically, and socially).

A clear example addressed by Preston is the global climate. While some are still debating whether we have altered it, Preston makes the point that others have already concluded that we are, we can, and we should. The problem is obvious; as Preston points out, the climate is shared—there are no meaningful boundaries when you start shooting nucleating materials into the atmosphere to alter the earth's albedo, or begin nitrogen seeding the oceans to increase CO₂ capture. A general warming or cooling of the planet is bound to create advantages for some people and countries and disadvantages for others.

There are a few important questions and assumptions that could use more examination in *The Synthetic Age*, but Preston accomplishes a lot in just under 200 pages, and does so in an engaging and understandable way. It tends to veer away from prescriptive assertions, instead generally providing a descriptive picture of the landscape. For that reason, I think the book will appeal to a very broad audience and I highly recommend *The Synthetic Age* to everyone. The book is really an invitation to join the conversation about the future of the planet—one we should all accept.