

Christopher J. Preston

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

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Reading this important book by Christopher Preston I was reminded of the consequences of capitalism's revolutionary world transformative power as described by Marx and Engels: 'all that is solid melts into air' (Marx and Engels p.13). Preston's topic is not capitalism but various world transformative technologies in the process of development. It seems that 'we' may soon be able to re-design our surroundings comprehensively from the nano-level to the global biosphere and climate system. This dream – even if it is only a dream – is extremely powerful, and pursuing it much further will change everything for us, including what it means to be us, in unpredictable and uncontrollable ways. We should probably talk about it then and Preston's book is an excellent spur and contribution to this necessary debate.

The book is structured around explanations and discussion of the technological developments, with chapters devoted to 'making new matter' through nanotechnology and molecular engineering, fabrication of synthetic genomes, 'post-wild' ecosystem management, gene-drive, species relocation and resurrection, cities as evolutionary forces and various forms of climate engineering. Preston's account of these is engaging, lucid and accessible. He also conveys something of the quirkiness of the characters involved. For instance, there is an amusing account of futurist and nanotechnologist Eric Drexler's PR own goal in speculating too convincingly about the possible 'grey goo' outcome of releasing self-replicating nanobots into the biosphere. To some extent Preston thereby humanises some otherwise rather frightening technological forces and prospects. The dramatis personae come across as respectable yet certainly fallible and not at all God-like Masters of the Universe before whose dreams and agendas we have no option but acquiescence. This helps to underline the appropriateness of some important interlocking themes threaded through the chapters.

Preston does not argue that overcoming any particular material limit should be forbidden *a priori*. His point is that because so many important ones are now (close to) being overcome we should pause and consider the wisdom of pressing on. We certainly shouldn't simply assume that doing so is automatically good. One theme running alongside the exciting prospect of profound and unprecedented control over (or replacement of) natural processes is that some wildness will inevitably remain, however transformative the technology. Partly here Preston is endorsing a point made before, by philosophers such as Keekok Lee and Steven Vogel: all human artefacts, including the deepest of technologies, retain an element of unpredictable waywardness. The fantasy of total control, even over what we make in accordance with our best understanding, is just that: a fantasy. Presumably the more

transformative the technology the more the potential for waywardness should make us hesitate. Even if a world of grey goo is not strongly indicated who knows what strange and inconvenient things all those nanites might get up to? Really this is just about not letting enchantment by the genuinely wonderful possibilities – and potentially massive profits – envisaged for some of these technologies override basic precautionary considerations.

The point applies also to the nature that will still exist however far the technology is developed. Whatever else is true of the Synthetic Age, some recalcitrant nonhuman wildness will remain, from the smallest to the largest scales. At the latter, for example, wild, unpredictable changes to rainfall patterns are likely consequences of SRM techniques aimed at manipulating climate change. How exactly these play out can't be known until after the technology is deployed. More generally, even if the Anthropocene is finally accepted as the formal name of our geological epoch then, as Preston points out

the renaming will say something important to us about who we are and what we might become. But in that moment of reflection, our species would do well to hesitate for as long as possible before moving ahead. The pause will offer a chance to take on board the fact that, despite our best intentions, nature and the billions of fast-changing lives it contains are not likely to lay down and do our bidding. Not even after the monks and philosophers of the earth sciences have named the next epoch our own. (p. 178)

This raises another reason for taking stock: the philosophical questions about meaning and identity raised by the technological prospects. Perhaps it is possible to envisage any given material limit on the technological manipulation of nature being overcome. Indeed, the anticipated overcoming of many of them is definitive of what Preston is calling the Synthetic Age. What would it say about us though if we deliberately aimed at maximising the extent to which our surroundings, and therefore our own nature, are subject to technological control? Humanity has evolved, and our cultures, institutions and ethical systems, such as they are, have developed against a background of natural limits. Although human history has been constituted partly by progressively overcoming some of these limits, do we really want as fully synthetic a world as possible? In order to genuinely want this we would need to know what it meant. Reflection, including ethical and philosophical reflection, is called for then.

So is discussion. It is very important, of course, who 'we' are. This brings us to two more themes of the book. One is the terminology used to frame the issues. Although the point is relatively muted in Preston's discussion it is striking that he does not straightforwardly accept the Anthropocene label. The book is not yet another discussion of 'how we should understand x now we are in the Anthropocene'. It is called *The Synthetic Age* and Preston uses that term interchangeably with 'The

Plastocene’, as both ‘suggest that a world that was once the product of natural processes increasingly is becoming something we deliberately construct’ (p. 179 n. 4). ‘Deliberately’ is a key word here. How far we take it is in principle a matter for deliberate decision making. As Preston doesn’t quite say, the Anthropocene label obscures this by reinforcing the impression either that the decision has already been made (even if not very deliberately), or that there is only one ‘realistic’ option to choose – intensify the hold of humanity over nature (Hailwood, 2019).

Preston’s main message is the need for wide democratic deliberation. The profound implications of the question of just how synthetic our age should be means it cannot be left to corporations and experts. As many as possible should have a say. Maybe something like this will happen. From a political point of view Preston’s point here seems both essential and a little naïve and lacking in detail. He points to Brexit and the election of Trump as signs of widespread annoyance at the injustice of fates being decided by distant elites in their own interests. This seems plausible as far as it goes, but it is hard to envisage a calm and reasonable debate about profound and complex issues in the current populist atmosphere with its climate change denial and memes of betrayal against a background of vast inequalities in power and resources. This is not intended to be a book of political analysis though. In explaining where we are in terms of these technologies and in making the case for democratic decision-making it succeeds admirably. In the nineteenth century, when rapid techno-scientific developments were driving the industrial revolution, there was plenty of learned commentary on the implications of the astonishing transformation, including on what it meant to be human. That was not a time known for inclusive democratic control over the course and extent of the revolution. Hopefully it will be better this time. If it isn’t that will be a sign that not enough people have read this important and accessible book. Highly recommended.

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REFERENCES

Hailwood, Simon. 2019. ‘Real anthropocene politics’, in M. Arias-Maldonado and Z. Trachtenberg (eds.), *Rethinking the Environment for the Anthropocene: Political Theory and Socionatural Relations in the New Geological Age*, pp.123–136. London: Routledge.

Marx, K. and F. Engels. 1998 [1848]. *The Communist Manifesto*. London: Electric Book Company.