

Life as Surplus: Biotechnology and Capitalism in the Neoliberal Era

By Melinda Cooper

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Reviewed by Eric Deibel

Reading *Life as Surplus* by Melinda Cooper is likely to overwhelm even those familiar with critical studies of the interface of the life sciences and capitalism. The book combines a wide range of developments in the life sciences in close association with theoretical observations on some of the basic concepts of political economy. Specifically, Cooper asks poignant questions about the speculative future of the accumulation of capital in relation to life as a technological creation.

She raises such questions with an insistence that has become rare in studies of genetic engineering, recapturing some of the urgency that in the 1980s and 1990s surrounded topics like the patenting of DNA, corporate concentration and the regulation of risks. Most distinctive about her approach is that she is able to retain a critical position while not allowing the biological to be reduced to the economical nor the other way around.

Interestingly, her analysis is focused in great detail on the coalescence of the neoliberal promises of growth without limits and the drive to overcome natural limitations in the life sciences. This is the case, for instance, in the imaginaries that companies and scientists in plant biotechnology like to identify themselves with that feature rich farmers producing food for the people, (bio-)fuel for their cars and even some of their (bio-)medicines. Such promises, however, coincide with a relentless drive to turn life forms into commodities and a relentless exploitation of life on earth.

These topics are very close to Illich's interests. For instance, his reconceptualization of the commodity is closely linked to the use of science and technology. Without too much difficulty, it is possible to consider "Life as Surplus" as an effort to rethink the forms of the commodity for the period following the industrial mode of production that Illich was writing about. This is a point of view, however, that does not easily comprise Illich's notions of alternatives; what kind of tools for conviviality might apply to life as a technological creation? Cooper's analysis does not focus on the potential of alternatives to the subsumption of the life sciences by capital but she is highly creative

in her identification of the internal contradictions of the new biological terrains that are being opened up for commodification and speculation in a period wherein neoliberalism is the dominant political philosophy of the times.

Specifically, she considers the rise of the life sciences as a response to the financial crisis of capitalism. Her description presents the life sciences as directly related to the debt-creation by the U.S. government. Not only did the US. respond to the crisis of its industrial model by abandoning the gold standard and becoming the world's largest debtor; one of the most important ways wherein this was used was the financing of the life sciences.

Such emphasis on debt-creation also situates the life sciences at the core of the on-going renewal of capitalism. The life sciences are, as a promise on the repayment of debt, implicated in the temporality that neoliberalism enforces on the present. Specifically, Cooper argues that “profits will depend on the accumulation of biological futures.”¹ Most straightforwardly, this refers to the many kinds of business models in the life sciences that operate on financial speculation. A whole range of measures—patents, start-up companies, venture capital funding, stock markets and so forth—were introduced with the intention of guaranteeing a return on the investments in the life sciences.

In the cases that she analyzes, Cooper shows that “biological, economic and ecological futures” are “intimately entwined” as subjects of speculation.² She argues that speculation on value in the life sciences has been encouraged to the point that it has formalized “the prospective value of promise, turning life science speculation into a highly profitable—indeed rational—enterprise.”³

Specifically, it is not in terms of standardized and mass-produced commodities that the life sciences should be understood in relation to neoliberalism. A familiar topic in this regard is the patenting of DNA. Cooper argues that this implies that it is the very “*principle of generation*” that is

¹ Melinda Cooper, *Life as Surplus: Biotechnology in the Neoliberal Age* (Seattle: University of Washington Press, 2008), 24.

² Ibid, 20.

³ Ibid, 28.

to be controlled, (re)production itself, “in all its emergent possibilities.”⁴ This emergence becomes clearest in her discussion of “tissue engineering” (chapter 4), a process which aims to reconstruct skin and organs by culturing these in vitro from cells for transplantation. What this implies is that skin and organs, in contrast to earlier practices of transplantation (like prosthesis or organs), have a form and substance that continues to transform and remains perpetually variable after the transplantation.

Cooper's point about speculation, patenting, and these tissues is that value is not situated in a particular commodity but in the capturing of the potential of biological processes and reactions themselves. Such a destandardization of the commodity in the life sciences, she argues, indicates a “higher-order mode of production” wherein the production of tangible commodities has been subsumed.⁵ Of course tissues are tangible, but as products they exist in a spectrum of variable forms that are expected to live (grow, mutate etc.) for long periods of time. Furthermore, Cooper's interest in such developments in the life sciences also includes the dramatic changes in its object of study. For example, she describes in great detail and insight the “complexity-turn” in theoretical biology and evolutionary theory (chapter 1). When, for instance, studying bacteria or microbes this indicates a kind of evolution that is very different from gradual processes taking thousands of years. These are objects of study that are in a constant state of transformation and show patterns of interaction of limitless complexity. This language of complexity, interactivity and self-organization, she argues, runs parallel to the one that is increasingly being applied in neoliberalism.

Interestingly, Cooper combines her discussion of cases in the life sciences with an examination of markets as self-organizing entities without pre-determined forms and equilibria. She returns to Karl Marx in order to describe the economics of markets wherein production is modeled on the complexity of life forms that are self-organizing, regenerating and continuously in crisis. Cooper's idea about a new model of production is that it operates on a specific kind of invisible

⁴ Ibid, 24.

⁵ Ibid, 24.

hand that gets its evolutionary character directly from theories and research in the life sciences. Such a crisis is therefore at once financial and ecological. Cooper explores, for example, the ways wherein such neoliberalism internalizes the very unpredictability of life in the biological turn in US security policy (chapter 2 & 3). Specifically, she observes the extension of the doctrine of preemption to biological threats so that bioterrorism is grouped along with infectious diseases. Such a collapse of health issues into the same category as defense and war operates within the same model: the focus is on the emergence of life forms that are understood as complex, unpredictable and self-organizing.

Accordingly, life at the microbial level becomes a potential threat to society, whether as an act of war or as an infection. In the last chapter, she inverts this notion of emergent life as a threat to national security in her discussion of stem cell science and its sacred status in the ideology of the evangelical right in the US. Therefore, life before birth is threatened along with life that emerges as a threat in security policy. As Cooper sees it, either case is an indicator of life politics that operates in a speculative mode. When fundamentalism imposes its faith in the afterlife on the unborn, this takes place in the context of the realization of the debt of the nation; the speculation on the future of the unborn as coupled to a “politics of nationhood.”⁶ It is at this point that Cooper's discussion of debt creation comes to its fullest expression. Not only is debt the principle condition that makes the life sciences possible in an accelerating spiral of speculation, the accumulation of biological futures also implies a kind of politics that is “contingent on the realization of a debt that has not yet and may never come to maturity.”⁷

Finally, it is a startling moment for the reader when turning the page after reading her final chapter to realize that the book has ended. It suddenly ends with a brief commentary suggesting that the biological future might not belong to the US, that it might fail to capture the profits that were to resolve the debt-crisis of the US industrial model. Especially notable is the absence of any kind of

⁶ Ibid, 171.

⁷ Ibid, 170.

discussion on the consequences of the emergent model that she has described, which appears to be nothing short of a disaster whether or not the US manages to capture any profits.

The brevity of her conclusion gives reason to rethink her analysis. Perhaps Cooper ended exactly the way she announced she would, given that she started the book with an insistence on the indeterminacy of the future that is being enabled in the life sciences. However, there is no reason to go from a rejection of linear and final histories to a position that reads like a refusal to face the biological futures and the ways wherein these will refashion the world.

It might be a theoretical matter. As mentioned, Cooper's discussions of the life sciences are rich and exhilarating because she does not privilege either biology or economics. Therefore, in the conclusion she is being consistent when she refrains from privileging either. At the theoretical level, she explains this method as derived from a combination of Marxist concepts like labor, value and accumulation along with Michel Foucault's *The Order of Things*, which is one of his early works on the emergence of science. That Cooper does not end up immobilizing developments in the life sciences by privileging a Marxist critique of political economics is Foucauldian.

Foucault's work is about the very possibility of knowledge. Specifically, Foucault argued that critiques (such as those of Immanuel Kant and Marx) introduced no real discontinuity with and within the epistemological arrangements of Western knowledge of the nineteenth century. The tradition of critical thinking beginning with Kant and continued by Marx was a part of it, relied on it, and had no power to exercise over it. Consequently, Cooper's text, like Foucault's, is a critique of critique and hence there is no point in assuming the position of a critique for a conclusion. She would contradict her own premise if she would end by privileging her critique of the commodity and speculation over the coalescence of knowledge in the life sciences and neoliberal economics.

Indeed, Cooper's emphasis on two fields of knowledge as mutually constitutive is commendable for not oversimplifying the almost inevitable linkage between developments in the life sciences and the Foucauldian idea of biopower. It is not the case that any emphasis on power in

the field of biology qualifies as bio-power in the line of Foucault's work. Cooper's exemplary reading only makes it more regrettable that her analysis unnecessarily grinds to a halt in this "critique of critique". The absence of a more substantial conclusion is unnecessary when reconsidering the way wherein Foucault, in *The Order of Things*, describes the emergence of fields of knowledge; his description is not about different fields of knowledge that interact but is about *natural history* becoming biology, alongside *wealth* becoming economics, and *language* becoming linguistics.

To put it in a single phrase, Foucault argued that over the formation of these fields of knowledge, "pre-critical naïveté holds undivided rule."⁸ This sentence is an indication that the viewpoint on the relationship between Foucault and Marx that Cooper explores could also be approached from another angle; her perspective goes to Marx to describe the naïveté that frequently characterizes the high tech speculations about life and nature. Consider how pre-critical the analysis of the accumulation of biological futures already is in Cooper's discussions of "wars on disease," the religious belief in natural rights of the (unborn) person, and the linkage of property to life in neoliberalism. In effect, these topics are evoking the entire repertoire of natural rights theories from the early modern period, like those of Thomas Hobbes (war), John Locke (property) and even Jean Jacques Rousseau, who is always nearby when criticizing the idea that nature needs to be conquered. Naïvetés permeate the futuristic blending of nature, society and capital.

It is only a few short steps from natural law to rejoining Cooper again in her sophisticated discussion of Marx. Marx's critique of such naturalism is indispensable for discussions of life as an object of speculation and a model for neoliberalism. This short step makes a difference in respect of the few strategies for resistance that are mentioned in part one of Cooper's text (activism against pharmaceutical companies and open source in biology). She does not elaborate these further before the last sentence, which opens the possibility of a very "different politics of life, labor, and

⁸ Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (New York: Vintage Books, 1994), 320.

resistance.”⁹ This difference can never amount to much when resistance ends up being juxtaposed to the multiplicity of ways wherein life as a technological resource is being internalized to capital. If the future is indeterminate, as Cooper claims, does it really prescribe giving up on ecological and political problems in the face of the conjoining of the life sciences and neoliberalism?

Cooper's book has a rare sense of urgency that is directly present in her rich discussions of life as an emergent system of valuation, which offers her readers a method that is exemplary. However, this is an urgency without a biological future of its own. Perhaps the point is that the futures that she studies are those that already belong to an alliance of life scientists and neoliberals and will remain so if left to them. In part, this is a question of theoretically reframing the analysis. Illich sets an example here because his work on the commodity at every point includes its limits, its instabilities and the possibilities for resistance and alternatives. Of course, it is a daunting task of having to identify starting points for an alternative within an analysis of the extent wherein life and nature are already technological creations. Yet Cooper's method could easily accommodate a widening of its emphasis on speculation to include those forms that do not belong to or conform with neoliberalism, like the countless examples in popular culture of counterspeculations about genetics. These, also, are often pre-critical, combining ecology and political change in the face of naive ideas about genetics and big business. Ultimately, their inclusion would show a wider range of pre-critical speculations that, along with biological war, eugenics or patents, might show a starting point from where to reorient the critique of the commodification of life towards a future that is open in the sense that it does not belong to either capital or technology by design.

Author's Bio

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⁹ Cooper, *Life as Surplus*, 176.

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