Discounting the Future. The Ascendency of a Political Technology

by Liliana Doganova (2024) Princeton (NJ), Zone Books, Princeton University Press, 336 pp.

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Had Karl Marx read the book I am about to review, I like to believe he would have revisited his famous dictum from *The Eighteenth Brumaire* to say: the discounted future of the new generations weighs like a nightmare on the calculative infrastructures of the present.

Climate knowledge has been validated, political calls on system change have been made, targets set and transition pathways traced, renewable solutions developed, publics mobilized. Still, environmental, political, economic, health crises persist and grow in their magnitude, to the point of appearing overwhelming and leaving humans stuck with business as usual. How to deal with such inertia?

Discounting the Future. The Ascendency of a Political Technology by Liliana Doganova suggests turning the eyes from the panoramic view and looking where the devil thrives: the minutiae and the boring details, hidden in plain sight and yet able to expose the whole machinery of a mystery just like Edgar Allan Poe's stolen letter. Doganova – associate professor at the Centre de Sociologie de l'innovation (CSI), Mines-ParisTech, PSL University – invites us to consider how the future is embedded in the very economic instruments used to imagine, control, and extract value from it. In so doing, the book follows the route of the pragmatist tradition of economic sociology and STS looking at the material and discursive assemblage that enact mainstream economics and finance as well as markets (Callon 1998; MacKenzie 2006; Callon et al. 2007). The focus is not on the meaning of economy and what the economy is or is not, but rather on what economics does: how its technologies of calculation actually work; the worlds they perform; the actors they make visible and invisible; and the time horizons disclosed or hindered. By addressing the question "How the future is made valuable?", Doganova traces the connections of economic knowledge and practices in a quest where the mystery to be solved is nothing less than the mystery of the capital. To understand capital, the author argues, we need to explore the political technologies built on the relation between valuation and temporality.

The book engages with a specific mechanism of valuation through which the future and the present have been appropriated and trapped: *discounting*. The author starts exploring discounting as a "general form" (p. 23) enacted by the instrument of the discount rate, a cost-benefit model assuming that the money expected in the future is equivalent to less money today.

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Chapter 1 begins by examining the discount rate, starting with its formalization by economist Irving Fisher in 1906, as an equivalence between future benefits and present costs. Fisher's "coup de maître" (p. 52) makes the value of things derived solely from the future, cutting the future from the present, and purging it from the past. To consider the states of the future less important than the present has huge implications for the way politics, society, finance and innovation are today conceived. First, once projected into the future, the things being valued are themselves transformed into capital flows. Secondly, what counts for determining the value of things is constantly devalued. The future, indeed, is discounted.

Across the book, the reader travels back and forth through a calculative infrastructure made of economic tools and models, textbooks, standards, resource management approaches, organizational narratives. The machinery of discounting, we learn, shapes firm practices and industrial sectors, major infrastructure projects as well as public policies. It applies to a variety of settings across modern history, before and after Fisher's conceptualization, including the laws supporting international arbitrations and global decarbonization strategies. Chapter 2 traces back the origins of discounting to the "Faustmann formula", introduced in forestry management during the nineteenth century to calculate the right moment to cut trees and sell wood, thus turning forests into capital through time. With a leap in time to the publicly traded firms of the 1950s (Chapter 3), we witness the early steps towards the financialization of the economy as discounting is engineered in a specific tool, the Discounted Cash Flow analysis (DCF). DCF has been transformed into a commodity making the life of companies increasingly dependent on their expected value, with managers acting in the interests of investors. The story of discounting continues moving to the biopharmaceutical industry (Chapter 4), dealing with the uncertainty in the valuation mechanism. The author illustrates how the very notion of uncertainty becomes capitalized, and evolves from a simple lack of knowledge into a tool for assessing the value and risks of developing new drugs. Finally, Chapter 5 explores the role of discounting in the public management of Chilean copper mines, an emblematic story that I will detail below.

The valuation processes are linked in the book by a common thread. Describing forest management, firm practices, biopharmaceutical strategies and management of mineral resources, allows the author to expose the theory of value and the theory of action underpinning the machinery of discounting. A theory of value "characterized by its radically future-oriented temporality" and a theory of action where "the value statements that it produces matter not so much as truth statements, but as action triggers" (p. 28). The book shows how discounting operates as a political technology and the future as a political domain where the capacity of action is unevenly distributed.

The author's aim is not to determine whether DCF accurately represents value or not, but rather to explore how it shapes value together with the objects that are valued. Accordingly, the author sharply illustrates how discounting prescribes not only what matters, but also what is deemed worthy of existence, ultimately hindering the capacity to act in the future. In the case of forests, the long-term approach to capitalize on the value of the forests for market and military purposes clashes with the short-term needs of the rural populations for heating and building houses and tools. Likewise, the decision to develop or not a new drug is increasingly taken given investors' concerns. The high discount rates are in competition with the potential benefits for the patients in defining the value of a drug. By addressing uncertainty not as a neutral lack of knowledge but instrumental to discounting, Doganova finally shows that the future and the present are a contested landscape, "over which some actors claim the right and the ability to act while other actors do not" (p. 126).

One of the key lessons of Doganova's account is that the economy is far too important to be left solely in the hands of economists. The book contributes to adopting a transdisciplinary perspective and method, drawing on historical and economic sociology to engage with economics and enter dialogue with many other disciplines. There are core influences, starting from the abovementioned scholarship of Actor-Network Theory and STS, developed within the Parisian academic milieu and the CSI, where the author is based. Then the book engages with a variety of debates on markets, economy and time, including future and anticipation studies (e.g., Esposito 2011) and history of ideas (e.g., Nordblad 2016; Andersson 2018). The concept of political technologies draws on Foucault's idea of governmentality, which in turn activates more implicit resonances with other contributions I came across. Most notably, the work by Timothy Mitchell in political theory and history and his notion of "economentality", as a form of political reason and calculative practice which "formed the economy as their object and introduced the future into government" (Mitchell 2014, 485). Likewise, the book's section about the Stern/Nordhaus controversy on the discount rate connects me to recent contributions in non-mainstream economics on temporality and time constraints to identify alternative trajectories of decarbonization (Coffman and Scazzieri 2024). These and many other scholarly encounters suggest that a vibrant and important debate is unfolding, one in which I believe *Discounting the Future* plays a crucial role and to which it offers a truly original contribution.

The fifth and final chapter of the book is particularly compelling and stands out as an ideal culmination of Doganova's genealogy of discounting. It examines two opposite approaches to valuation that share a common dilemma: how to determine the price of privately owned natural resources, to provide compensation once they are expropriated by the state? The chapter delves into the history of Chilean copper mines, initially owned by multinational corporations, then nationalized under Salvador Allende's government in 1971, and successively conceded by law to investors by Pinochet's minister of mines José Piñera Echenique, following the 11th of September 1973 military coup. Piñera developed a legislation with the brute force of economic rationality, bringing the future-based mechanism of discounting to its extreme to attract foreign investors. It allowed to neutralize the previous nationalization without changing the constitution, bypassing ownership through valuation. Under Piñera's system of full and indefinite concessions, the investors' expectations would have been met anyway, regardless of how the future unfolded. Allende's nationalization, in contrast, inspired by principles of social justice and compensation, represents a rare instance, where the past resists the future and becomes the source of value itself: the price of mines is given by their initial value when they were first acquired by companies minus the excess profits made by companies over the years. As it turned out, the Allende government would not have needed to pay to nationalize the mines. Instead, the mining companies would theoretically have owed the Chilean state money due to the immense profits generated.

Clearly, discounting played a crucial role in the historical, economic and social stakes of one of the postwar era's most tragic events, and it plays a crucial role today. The story of Chilean copper mines does not end here. The author follows its various threads to document the shift from an economy based on ownership to one based on valuation until nowadays.

As an STS scholar engaged with climate transformations, not trained in economics but aware of the strong influence of economics on climate action, I felt both rewarded and empowered reading the book. The narrative settings enable both author and reader to walk together as companions in a shared journey throughout the book's exploration of valuation. The style offers effective guidance through economic paradigms and their technicalities, carefully tracing the connections between the tiny instruments and formulas and their large implications. Not only the language of economics is made accessible, but also actionable. The category of time and the situated approach adopted to study valuation, while offering a novel perspective, have also the advantage of creating a shared cultural ground with the reader, stimulating larger reflections on past, present and future, and widening the book's reach beyond academia.

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