

BOOK REVIEW AND REFLECTION ON
BIO CAPITAL: THE CONSTITUTION OF POSTGENOMIC
LIFE BY KAUSHIK SUNDER RAJAN*

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The book is a well written piece, offering us a different take by bringing out the intricate relationships between several players and factors involved in the development of bio technology, which are present in contemporary world not only at a horizontal plane but also a vertical plane. The author has convincingly tracked and theorized the co-production of an emergent techno-scientific regime, which is that of bio technology in the context of drug development. He has theorized bio capital drawing primarily upon marxian and foucauldian understandings of life, labor and upon literature in science and technology studies, which has drawn attention to the constructed, contingent and politically consequent nature of techno scientific activity.

He uses biocapital as an explanatory framework for contemporary capitalism in its emergent and shifting topological manifestations and conundrums of value generations and market logic that come out of the bio-informatics mergers of the genome sequencing revolution.

He focuses on the changing aspects of words and their meanings in contemporary world, words which were part of our lexicon and are now loaded with several other connotations courtesy the change that has come about in this era of globalization. He talks about Genomics as one such change that reflects more general change in two broad domains; the first is in life sciences which is fast becoming information science and the second, capitalism, which has “defeated” all economic formations and hence considered to be the “natural” political economic formation. He

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then argues how Life Sciences represent a new face and a new phase of capitalism and consequently that biotechnology is a form of enterprise which is not distinct from contemporary capitalism.

He quite distinctly focuses on how contextualization of science cannot simply be understood as a unidirectional attribution of causality; there is a mutual constitution of the “scientific” and “the social” as co-production and this co-production of life sciences and political, economic regimes is investigated by the author. He postulates that this co production can be best understood in terms of conjuncture of several events and factors: firstly, the interest of venture capitalists; second, investment and support given by USA federal government; third, several legislation that facilitates transfer of knowledge and information from academics world to the industrial world; and fourth supportive legal climate.

He points out that how capitalism is not a single, static and unitary entity rather mutable and multiple and that it is not capitalism but capitalisms; wit this framework in mind he then argues that how bio capitalism is the vantage point from which we can view the complexities of capitalism(s) as it contains within it both its specificities as well as its diagnoses of more general structural features of capitalism.

He uses the Marxian framework to understand the relationship between bio capitalism and capitalism at large to point out that bio capital does not signify a distinct epochal phase of capitalism rather it is a continuation of, a subset of and a form distinct from the former. He uses the foucauldian framework to point out that the articulations of life, labor and languages are themselves in formation and information that constitute bio capital and post genomic life and the analysis of these articulations that is a central attempt of the book. The book brings together Foucault’s theorization of the bio political and Marxian attention to political economy, labor, value, commodity forms and processes of exchange as they get constitute alongside the epistemic and technical emergences of the life sciences and bio technologies.

He uses Marxian methodology to point that the five distinct domains of analysis in the book- exchange, commodities, valuation, science and globalization- are all animated by the dialectics.

He further points out that vision, hype and promise are fundamental drivers of the valuation that is carried out in the bio tech and drug development industry.

This book is about global political economic system and uses ethnographic method to do so. So, on one hand the book is about “Biocapital”, on the other hand it is also multisite ethnography of post-genomic development marketplaces in the United States and India. His ethnographic study compares and contrasts biotech companies in the U.S. and India to bring into light how industrial practices are shaped by a myriad of economic and cultural forces. Among the many insights produced, the author convincingly demonstrates how the so-called ‘life-sciences’ are representative of a new phase of capitalism that is characterized by the temporality of our postmodern time.

He discusses how biotechnology is changing relationships and practices between public and private entities. He explains that high tech capitalism is dependent upon information in order to innovate and produce; traditionally, this service was fulfilled by publicly-funded research institutions. But the speed at which the biotech industry competes has blurred these boundaries; the race to map and “own” the human genome that pitted the National Institute of health against Celera Genomics is a case in point. The author explores that how governments are responding to the pressures of privacy and ownership rights by behaving more like corporations. For example, the U.S.A has seen an explosion in partnerships between universities and private corporations while the Indian state has sought to retain genetic property rights for its public hospitals. In this sense, he positions the biotechnology industry squarely in the vanguard of contemporary global economic and institutional change.

His extensive and intricate comparative analysis reveals how such dynamic play out in markedly different ways in local contexts. In the U.S.A., the author describes how messianic corporate lawyers hype their miracle drugs as salvatory promise; venture capital sometimes finances ritualistic displays of excess that intends to inscribe corporate brands on the minds of investors and employees. The author explains that a reverence for free market capitalism and the fetish of personalized medicine compel investors to risk massive amounts of money on little more than the promise of scientific discovery. However, the process of calling the future into the present

creates a tension between the promise and the reality, a problem that is addressed by corporate public relations departments- including marketing campaigns that are aimed at introducing remedies for consumer patients-in-waiting at progressively earlier stages of intervention.

In India, he traces techno capitalism to the postcolonial drive to invest in science as a path to empowering the independent state. Consequently, he finds that Indian entrepreneurship is much more conservative than in the U.S.A. In fact, many Indian companies tend to engage in production or research work on a contractual basis for western business. The author discusses how the ideal of the American market is often balanced against socialist values that stress the sharing of scientific discovery to the benefit of the community, suggesting how struggles over the future of the Indian Economy might be waged.

He chose GeneEd as the major case study for the book in part because it highlights the experience of Indian entrepreneurs working and living in the U.S.A. The fascinating narrative reveals how the hegemonic power of capitalism instill social meaning among workers who dedicate themselves to fulfilling the firm's mission. Yet the author finds age-old themes at play, such as the alienation of labor that resulted from the company's pursuit of a growth strategy that commodified some skill sets while valuing others. Despite the fact that GeneEd plays a peripheral industry role, the structural and cultural logics of biotech become visible to us due to his brilliantly perceptive and expert commentary. We get to know how GeneEd might have evolved but was moved in a particular direction owing to a mix of external market forces and the specific decisions of its capable leadership team.

The core argument offered by the author in this book is that understanding biocapital involves analyzing the relationship between materiality and modes of abstraction that underlie the co-emergences of new forms of life science with market regimes for the conduct of such science. In other words, one can understand emergent biotechnologies such as genomics only by simultaneously analyzing the market frameworks within which they emerge.

Discussion:

As has been mentioned during the book review the most interesting things about the book is to bring into forefront the connection between how capitalism is pushing itself in a different manifestation or continuing with its ways to profess its ideas of making profits through one form or the other. Where there is no need, the want is created, which is then essentialized and converted from just being the want to a need; the need to control life by understanding everything in form of information that can be coded into numbers and the grammar of our day to day discourse. This book offers us an understanding of how when one sphere seems to be conquered and modified to suit the needs of capitalists, they end up creating another venture another sphere which is legitimized by several processes which work at different levels and hence there is a production of new form of capitalism which has the inherent qualities of capitalist model to make profit and to maximize profit; as it is on the continuum of the economic model called capitalism.

Moving beyond the debates over how capitalism has survived and how it is mutating itself in other forms, if we see the whole thing from another perspective where we analyze the idea and notions that society at large holds about health, diseases, medicines etc. Then it can be said that capitalism is indeed not just an economic model. Coupled with globalization it is a system which has the potential to manufacture not just products that adds the profit but manufacture ideas, manufactures new forms of understanding which affects our framework of understanding and the way we view the world. As has been mentioned in the book we cannot establish a linear causal relationship as many factors that seems to influence other developments are somewhere influenced by those developments too. Due to this we can't categorize the factors and or developments as the cause and the result. This book again gives us a direction to understand how the medical world and pharmaceutical world which is understood to be or portrayed to be the one which is working for the sake of humanity and all its actions are taken keeping in mind their humanitarian commitment; this flawed understanding that is given out to the masses. In reality, or probably the way we perceive this to be, it is because of the capitalists and their attempts to keep this scrutiny and make it as sacrosanct as possible. However, in reality if we start to analyze it then we can see that in contemporary world, it is about winning. Winning a war against the nature; trying to tame the nature so that human becomes invincible. However, by saying that

another thought that comes in mind is, as Hardt and Negri points out in their book, *Empire*, it is very difficult to locate the source; the center is everywhere yet nowhere and now here yet everywhere. Due to this complexity it is very difficult to pinpoint or for that matter paint the canvas of our understanding the way world is created and played. However, by this exercise, at least we can attempt to chart out different facets of the whole system going on around us. New forms of Capitalism(s) no longer create commodities only but create mind, bodies, needs and social relations.

Also, one can relate with what has been expounded by Naomi Klein in the book, *The Shock Doctrine*, that capitalism expand and sustain itself by using the shock therapy. It gives you a shock leaves one defenseless and then tries and rebuilds things according to its whims and fancies. If we combine the understanding expounded in the book by Hardt and Negri and Naomi Klein then it can be said that we do not know the source of the shock, even if the actors are apparent and visible; how and who forced and guided these actors to take a path where one gives the “shock therapy” to perpetuate capitalism or empire which is already everywhere and yet is expanding its contours with every step is not clear.

The biotech industry that is flourishing is somewhere using the shock therapy only. By preparing the genomic database, by comparing the prevalence of particular genetic markers among individuals who possess a certain trait, which may be a disease trait or a predisposition to a disease or to side effects to certain drugs and those who do not. These studies can provide insights in unearthing obscure disease related genes or in helping preventive diagnosis. And by these promises to fight which is still not there, but because it is not known to us and is unknown the fear of unknown is created and then the remedy of that unknown is sought after, this creates a hype, and here venture capitalists set their eyes to make profit and maximize profit. This is not to say that this industry won't help the humankind; indeed, it will help but the fact that it will cater to the elites and then create a distinction between the haves and have-nots and will further perpetuate the existing inequality which is there in our world. The inequality which is operating at several levels: national, regional, cultural, gender etc.

To conclude, the book is a brilliant piece of work which is truly written from a multi-disciplinary perspective which is highly necessary to understand some of the crucial current phenomenon and changes going around us. It tells us how capitalism or capitalisms are working out ways to make its way. Indeed, capitalism is like a growth machine as Peter Berger would say whatever goes into it will surely transform and change and that change will lead to further changes which will keep this machine going and growing. Industrialization started this never ending race of capitalism and information boom or revolution is helping this system to grow further and establish itself as an entity which can take any form and mutate itself to suit the need of the global as well as the local culture.