

[This is the pre-print version of a book review forthcoming in the journal 'Prometheus' in 2007. See the journal webpage: <http://www.tandf.co.uk/journals/titles/08109028.asp> ]

## **The Wealth of Networks: How Social Production Transforms Markets and Freedom**

Yochai Benkler

*New Haven and London, Yale University Press, 2006, xii + 515 pp., US\$ 40.00, ISBN 0-300-11056-1, cloth.*

This is a visionary book written by a man on a mission. It articulates one possible answer to the question of what might come after the proprietary-based knowledge-based economy that currently exists in advanced countries. Benkler is professor of law at Yale Law School and one of the most ardent proponents of the open source movement and the information commons approach. He argues that a new form of economy might be emerging, i.e. the “networked information economy”, in which *nonmarket and nonproprietary commons-based peer production* (i.e. “*social production*”) and exchange of information, knowledge and culture play a central role. This has become feasible because the capital required for social production and exchange in the networked information economy is relatively cheap and widely distributed.

Much of the book argues the perceived advantages of the networked information economy from a multi-disciplinary and liberal political perspective, and the numerous threats endangering the realisation of its potential. The incumbents of the existing proprietary-based “industrial information economy”, in particular Hollywood and the recording industry, have to loose much and only social practices and political action can prevent them from strangulating the fledgling networked information economy through over-regulation. A recurring theme throughout the book is the plea to keep open access, as much as possible, to information and communication infrastructure, to existing information, knowledge and culture, and to the creation of new information, knowledge and culture. In short, information wants to be free, needs to be free, and the resources necessary to produce and exchange it should be available to everyone.

The book is divided into an introduction and three major parts. Part one consists of three chapters that describe the technological-economic transformation making the new production practices of the networked information economy possible. Chapter two introduces some of the basic economics of information production and innovation. It covers basic features of information as an economic good, like non-rivalry, that make it a candidate for nonmarket production, and some basic ideas about knowledge accumulation (like the ‘standing on the shoulders of giants’ argument) that indicate the dangers which overly restrictive patent and copyright laws might pose to future knowledge creation. Most of the material is well-known, but central as building blocks for the main arguments put forward in the book.

Chapter three looks closely at social production and exchange, discussing open source software production, as well as many non-software related collaborative projects like Wikipedia, public resource computing projects like SETI@home, peer-to-peer file-sharing platforms like Napster, KaZaa, the application of sharing-based techniques to communication, e.g. Skype. They seem to reflect the state of affairs at about the middle of 2004. Many of these phenomena depend on participants having systematic excess computing capacity available. Business models that might make such excess capacity superfluous, such as 'computing on demand', or that make widespread commercial distributed computing feasible, are potentially a major threat to the core of Benkler's networked information economy. At best, they are briefly mentioned in the book. The next chapter provides answers to three puzzling aspects of nonmarket (especially peer) production from an economic perspective: Why do people participate? Why now, why here? Is sharing of material and non-material resources via the Internet (computing power, creativity etc.) 'efficient'? Benkler introduces the reader to some of his specific vocabulary associated with 'sharable goods', like modularity, granularity and lumpiness. However, the discussion is not as extensive as in some of his earlier articles.<sup>1</sup>

Part two is by far the largest part of the book, containing six chapters that are both descriptive and normative. They deal mostly with the social and political opportunities that have arisen due to the transformations described in part one, but the realisations of which are by no means inevitable. It elaborates why, despite being enabled by technological changes, the networked information economy is not determined by them. Chapter five discusses the networked information economy's potential to increase individual autonomy, thereby remedying the loss of agency that was imposed by the industrial economy. Amongst other things, Benkler discusses the advantages of commons-based wired and wireless infrastructure compared to their proprietary versions. He sees commons-based wireless systems as the primary legal form of communications capacity that does not systematically subject its users to manipulation by infrastructure owners. The networked information economy also leads to a radical increase in the number of information sources. In this context the author addresses two critical objections to his vision, i.e. quality concerns and the issue of information overload (the Babel objection). These are serious and hotly debated issues, but commons-based peer production itself is beginning to show how they might be overcome.

The next two chapters focus on the possible contributions of the networked information economy to an improved public sphere. Benkler's discussion extends the well-known debate about the democratising effects of the Internet. Chapter six first postulates the design characteristics of a communications platform for a liberal public sphere, before critically reviewing the role of the mass media in the 20<sup>th</sup> century and earlier. The focus is mostly on U.S. media history, but some developments in other countries are also mentioned. The chapter should be a useful item on a media studies reading list. One shortcoming is the sometimes insufficient referencing. For example, Harold Innis, Alfred Chandler, James Beniger, Eli Noam are mentioned, but no references are provided.

Chapter seven discusses how the dominance of the industrial information economy's mass media model is being challenged by the emerging networked information economy, and how these developments have the potential to alleviate the worst

weaknesses of the old model. Citizens need no longer be passive consumers and spectators, but can become active participants. Basic communication tools like email, mailing lists, the world wide web, and blogs are discussed, as well as interesting case studies about the 2004 U.S. election. This is followed by an overview of findings from research on Web typography, small world phenomena etc. Next, the argument is put forward that peer production also produces the public watchdog function in the networked public sphere, and examples of distributed political action are given. The chapter finishes with an interesting discussion of how networked communications can work around authoritarian control, using examples from former Yugoslavia, Iran, China and, as extreme outlier or exception to prove the rule, Myanmar.

Benkler also tries to contribute to political theory. He argues in chapter eight that cultural production and exchange should be seen as legitimate subjects for normative evaluation within liberal political theory and that in the networked environment they are attractive development from the perspective of such theory. A large part of the chapter is descriptive, providing many examples of new forms of cultural production. The core contributions of the networked environment to increased transparency of cultural symbols and the openness to alternative views is illustrated by a Google search for the cultural meaning of the Barbie doll. Many readers fed up with market-dominated culture will be delighted to know that there exists a Barbie Liberation Organization! Like in the case of information and knowledge production, there is danger that freedom of cultural production in the networked information economy might become severely restricted due to the power of industrial information economy incumbents in shaping the regulatory environment.

Chapter nine is even more ambitious. The author tries to establish the positive impacts of social production and exchange on issues of justice, economic development and human welfare. The topics covered range far and wide, from liberal theories of justice to information-embedded goods and tools, from Amartya Sen and the Human Development Index to a variety of commons-based solutions to economic development, including sector specific analyses and issues like software production, scientific publication, food security and production of and access to medicines. The basic claim that the networked information economy provides new paths to improving human welfare is well argued, but Benkler is no specialist in the vast literature on economic development, or the more specific one on the role of information, and of information and communications technologies, in development. Experts in these fields might feel frustrated by the few aspects of these highly complex issues that are highlighted by the author.

The next chapter reviews the social science literature on the effects of the Internet on social relations, i.e. on community and family. Increased individual autonomy is central to Benkler's claims about the networked information economy. He therefore needs to counter the possibility that more Internet use leads to social isolation, alienation and destruction of social capital. Again, the story he weaves seems convincing. People use to Internet mostly for strengthen pre-existing relationships and for establishing some limited-purpose, loose relationships, the later being important for social production an exchange. However, social capital expert may find the coverage of the literature somewhat selective, and a non-expert may be annoyed by Benkler mentioning, for example, seminal authors like James Coleman, Mark Granovetter and Robert Putnam, without providing references to their work.

Part three of the book consists of just two chapters, a long chapter detailing the battles over the institutional ecology of the digital environment, and a concluding chapter summarizing the main arguments made in the book. Chapter eleven provides an overview of how law and policy are being shaped in response to the developments discussed earlier in the book, and how this affects the production, use and exchange of information etc. Numerous struggles shape the institutional setup in which the different production and exchange modes compete. For the potential gains in autonomy, democracy, critical culture, justice, human development etc. associated with social production and exchange to be realised, the institutional setup of a society has to create space for these activities so that they can become more than fringe practices. Benkler is correct to emphasize the co-evolution of law, technology, behaviour and social practices, but I was disappointed to see no references to the large institutional economics literature that exists on this topic. As in many parts of the book, Benkler uses interesting and sometimes colourful examples to make his points. For example, he discusses how the law dealt with an artist's video showing U.S. president George Bush and British prime minister Tony Blair lip-synching a love ballad, and the legal treatment of shopbots.

To sum up, the book should be of interest to a wide readership, i.e. anyone concerned about the future of the knowledge-based economy, and economic, social and political alternatives to the current market-dominated model. Benkler makes the reader look at advanced capitalist economies and societies in a new way. The book, although sometimes repetitive, is full of interesting facts and new perspectives on the networked information economy and its struggles with the industrial information economy. Whether social production and exchange of information, knowledge and culture will be able to secure enough space to warrant the label networked information economy and society remains an open question.

The breath of topics covered and the multi-disciplinary nature of the book imply that often only a selective review of the literature is given. This is counter-balanced, if not more than compensated, by providing the broader picture which would not be visible from a narrower disciplinary perspective. Somewhat more surprising is the neglect of some prominent U.S. based researchers who have worked on a number of the major issues raised in the book. For example, Paul David isn't mentioned anywhere, despite his prominent work on open science and open source. Benkler definitely comes across as a man on a mission who is more concerned with getting his basic message onto a big canvas rather than providing an academic tome that aims at a representative coverage of the relevant literature.

The phenomena associated with the networked information economy highlighted by Benkler, and the hypotheses put forward, deserve further theoretical and empirical analysis by others based in a variety of disciplines. Some readers might interpret Benkler's networked information economy to foreshadow a new form of (information-based) socialism. However, the industrial information economy and the networked information economy are just two extreme cases, leaving many in-between possibilities. For example, an alternative not properly explored in the book is that social production and exchange, or something similar, might increasingly be taken up by commercial businesses, producing new synergies between proprietary and non-proprietary modes. Elastic Compute Cloud, the new venture by Amazon.com which is

spearheading that company's latest transformation, comes to mind, as do many examples of peer-production within companies. Alternatively, what emerges might transcend both capitalism and socialism, constituting a shift to a truly new type of socio-economic system.<sup>2</sup> There is need to relate Benkler's work to the institutional economics literature on varieties of capitalism etc. to which it contributes. There is also need for empirical research, for example on the relative economic efficiency of social production and exchange systems for information, knowledge and culture, over market-based systems, and for specific studies of the motivational factors underlying social production and exchange projects.

True to his mission, Benkler has made the book, and many of his other publications, available for free on the Internet. The interested reader is referred to the *Science Commons* reading room of the *Creative Commons* website at <http://sciencecommons.org/resources/readingroom.html>, which links to Benkler's website at <http://www.benkler.org/>. Many of the references used in the book are also available from *Science Commons*.

## Notes and References

1. I recommend the following publications to anyone interested in Benkler's economic methodology: Benkler, Yochai (2002), "Coase's Penguin, or, Linux and *The Nature of the Firm*", *Yale Law Journal*, Vol. 112, No. 3, pp. 369-446; and Benkler, Yochai (2004), "Sharing Nicely: On Shareable Goods and the Emergence of Sharing as a Modality of Economic Production", *Yale Law Journal*, Vol. 114, No. 2, pp. 273-358.
2. For an example of a search for the latter, see Geoffrey Hodgson, *Economics and Utopia: Why the Learning Economy is not the End of History*, Routledge: London, 1999.

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