

**Mario Biagioli, Peter Jaszi and Martha Woodmansee, eds:
 Making and Unmaking Intellectual Property: Creative
 Production in Legal and Cultural Perspective
 The University of Chicago Press: Chicago and London, 2011. 480 pages.**

The reading of *Making and Unmaking Intellectual Property* is a kaleidoscopic journey both inside the forms that intellectual property (IP) assumes and through the contexts in which it is shaped and used. The essays in this collection explore the cultural, social, political, economic and material factors that influence the production and exploitation of IP (and related knowledge), highlighting the relations between the actors involved in it. In doing so, the book puts into question the apparent stability of IP rights as legal objects, developing a more controversial picture showing the dynamics through which the forms of IP emerge, the clashes of interests around them, and their use (or rejection) by various actors for different purposes.

The scholars who have contributed to this volume come from different research fields: law, cultural studies, STS, anthropology, economics, communication studies, and disciplines dealing with the arts. This collaboration is not simply an attempt to provide an interdisciplinary outlook, but rather “[...] the result of the actual migration of IP [...] into all these disciplines” (p. 10). The reader can approach the book both comprehensively or selectively on the basis of his/her own interests, by following the thematic sections in which the essays are arranged, the particular research questions addressed by the single chapters (see the book’s introduction), or by searching the academic profiles of the scholars included

at the end of the volume in order to identify disciplinary discourses on IP.

The editors have here collected twenty-three studies in five clusters. The book opens with the section ‘High and Low: IP Practices and Materialities’, which historically analyses the practices and materials behind the working of the U.S. patenting system. The second part, ‘Before and after the Commons and Traditional Knowledge’, tackles the problematic relationships between IP and the groups of people – both indigenous and working communities – that use or reject it. The volume continues with ‘IP Crimes and Other Fictions’, which considers the infringement of IP rights from the perspective of the “pirates”, the “owners”, and the artists. The fourth cluster, ‘Old Things into New IP Objects’, exemplifies the problems encountered when subsuming “things” under the categories of law, their migration between different forms of IP, and the possible effects on the legislation itself. The book is concluded by the section ‘Doing and Undoing Collaborative IP’, that explores the issue of collaboration around IP in various directions. Together these five clusters of argumentation – each worthy of becoming the theme for a book in its own right – aim at reaching a wide range of readers, offering glimpses of the broad and rich themes embedded in IP. That, however, sometimes undermines the overall coherence of the volume.

Of course not all the essays concern science, technology, or nature; nevertheless

an STS reader can find direct and indirect stimulating insights to reflect on IP in connection with STS issues, following both human and non-human actors. For example, insights can be found regarding the intersections of IP with environmental exploitation/protection, globalization, the appropriation/circulation of techno-scientific knowledge, the use of the Internet, the ethical and political implications of science and technology, the cultural and social aspects of figures such as the inventor and the scientist, and the inventing, discovering and creative practices.

Of direct relevance for an STS scholar are the entire first and fourth sections. The first group of essays look at the practical backstage of the patent law – giving therefore the opportunity to delve into a form of IP that is central to the exploitation of technology and science. In this sense, Mario Biagioli shows how the introduction of the ‘patent specification’ document enabled the realization of the modern conceptualization of patents as rights based on a bargain between the inventor and the state. This perspective emerged in connection with the development of representative politics. By focusing on the U.S. patenting system in the 19th century, Kara Swanson analyses how the applications were produced and evaluated before and after the professionalization of the patent examiner. In doing so, she highlights that the patent is “an unauthored bureaucratic text that yet is interpreted as” (p. 50) representing an individual figure (the inventor). Finally, William Rankin discusses how the changing standards of the U.S. patent drawings in the period 1870-2005 reflect the changes in the characterization of “the ideal audience of patents” (p. 72), privileging the interests of the inventors over the legibility of the documents for the general public.

The fourth section provides examples of the application of IP to the products of

science, technology, and nature, drawing attention to the strategies devised to exploit them and the related manoeuvres around the forms of IP. The first two essays tackle the issue of the property rights on living organisms. Daniel Kevles presents the practices adopted by animal and plant breeders to retain the control on their products before patent law was applicable to living organisms. Alain Pottage and Brad Sherman (1930) begin precisely from the first legislative extension of this kind to reflect on the conceptualization of ‘invention’ when both man and nature are the “agents”. After these essays, the focus is turned towards pharmaceuticals. Cori Hayden shows how the notion of ‘generic drugs’ is differently characterized according to the economic and regulatory contexts – as in the cases of Argentina and Mexico. Jonathan Kahn, instead, discusses “the strategic use of race as a genetic category to obtain patent protection and drug approval” (p. 305). A case concerning informatics closes the cluster: Pamela Samuelson analyses the attempts of controlling the ‘software interfaces’ based respectively on trade secrets, *sui generis* IP forms, copyright, patents, and regulated licensing.

Important considerations regarding the use of IP by technologists and scientists are presented also by two other studies. Christopher Kelty reconstructs the creation of the first pattern of ‘information commons’ – the General Public Licence (GPL). Far from being a consequence of the hacker ethics – which was rather one of the outcomes of the controversy as narrated by the author – the GPL emerged as a means of managing a collaborative working community that was developing both outside industry and university, and that had to reckon with a changing IP legislation. Through the ‘oncomouse’ case, Fiona Murray discusses how the mouse geneticists responded to the introduction of patents in their research

field, arriving to integrate them in their academic 'cycle of credit' within which patents have assumed a new function.

Another interesting topic is tackled by Adrian Johns, who sketches a history of the piracy detection and the enforcement of IP law. Johns points out the central role played by the little-known "IP policing industry", highlighting its techniques and the tracking technologies used. Finally, Tim Lenoir and Eric Giannella issue an important methodological challenge to the STS community. By using patent data and the notion of 'technological platforms' to map the landscape of the radio-frequency identification technologies, they bring to the attention of STS scholars the adoption of quantitative research tools in order to

study the actor networks underpinning the development of technology on a large scale. *Making and Unmaking Intellectual Property* is thus a very useful starting point to delve into the dynamics of intellectual property and to think about how to proceed in the direction of including more of its issues within the social studies of science and technology.

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