ISSN 1824 – 2049 http://jcom.sissa.it/

Comment

INSIGHTS ON THE FUTURE OF SCIENCE JOURNALISM

Web 2.0: netizen empowerment vs. unpaid labor

Carlo Formenti

ABSTRACT: Scientific information looks to Web 2.0 models as an opportunity for shedding the constraints of traditional scientific publishing (high costs, slow processing, domination by elites). However, outcomes in the other fields that have preceded it along this path (open source communities, file sharing networks, citizen journalism), have cast several doubts on utopian fantasies about the "democratization" of information and knowledge. So far Web 2.0 has actually witnessed new forms of concentrations of resources and innovative ways for the commercial exploitation of collective creativity.

"For whosoever hath, to him shall be given, and he shall have more abundance: but whosoever hath not, from him shall be taken away even that he hath". As we know, the language of sociologists has borrowed this famous verse from the New Testament (Matthew 13, 12): the so-called "Matthew effect" is a metaphor for the forces that generate an unbalanced distribution of resources among different social classes and extend it over time. One of the best known and most often cited research works in this respect is the one by Robert Merton,[1] in which Merton clearly showed that the most famous scientists have access to far greater opportunities to expand their reputation capital compared to their lesser known colleagues. Merton found this phenomenon to be a particular instance of the general trend towards an unbalanced distribution of resources – wealth, political power, knowledge, etc. – and ascribed it to a complex set of factors, among which, in particular, the propensity of scientific journals to accept or reject, or to give greater or lesser prominence to an article according to the author's prestige or that of his or her institution, rather than on the grounds of the intrinsic value of the contribution itself. As stressed by Daniel Rigney,[2] although Merton belonged to the functionalist school of thought, and despite the fact that he viewed this trend as deeply-rooted in the very logic of social phenomena, he did not believe it should be accepted as "natural". On the contrary, he believed that its effects could and should be fended off with appropriate ethical choices. This article aims to discuss if and to what extent the Internet is an instrument capable of offsetting the concentration of reputation capital and of other resources in the hands of small elites. To this purpose, evolutionary trends in scientific publishing shall be analyzed in the wider context of the transformations that digital technologies are triggering in all sectors of the culture industry, discussing if such changes can in turn be taken as a paradigm of a new capitalist economy, founded on the exploitation of labor by masses of prosumers interconnected by the Web.

First and foremost one must take into account the strong resistance to change that has been witnessed in traditional models of scientific publishing, a rather paradoxical phenomenon considering that the scientific community, as proved by Manuel Castells,[3] has played a crucial role not just in designing network technologies, but also in the definition of the ethics for knowledge sharing. Despite these pioneering efforts, the movement for open access to scientific knowledge and information ranks last, preceded by those in favor of sharing knowledge in the field of software (open source), by the free exchange of cultural content by consumers (file sharing) and by the various practices for the production/distribution of information seeking alternatives to mainstream journalism (citizen journalism). Whatever be the reasons for this delay, some members of the scientific community are now actively committed to bridging this gap, as evidenced in a lengthy feature by the "New York Times".[4] The article lays bare the flaws of traditional scientific journals, based on copyright and on the professional and proprietary publishing business models: high sales and subscription rates, slow peer review process, proliferation of gatekeeping functions that create bottlenecks and slow down the flow of information. Such flaws in many different ways exacerbate the

Matthew effect: the biases common in peer-review communities based on the exchange of favors among elites, and the interest of publishers in exploiting the prestige of the more distinguished scientists concur to enhance the imbalanced distribution of reputation resources, rewarding well-know and established scientists beyond their actual merits. After listing these problems the article describes a series of initiatives aimed at launching 2.0 scientific information. Among others, the article mentions the ResearchGate social network, where scientists can exchange questions and information, share documents and other material, as well as seek collaborators – along the lines of websites such as Linkedin; the collaborative blog MathOverflow, where Mathematicians gain points by contributiong to the solution of problems; open repositories of scientific research information, such as the Public Library of Science; lastly GalaxyZoo, a website that defines itself as a citizen-science website, since it makes use of the typical mechanisms that govern collaborative nonprofessional information, thereby contributing to discovering and classifying millions of astronomical objects. Let's get to the point: even if these embryos of 2.0 scientific information represented a credible alternative to traditional scientific publishing, are we sure that, aside from greater access to knowledge and information by scientists and the public at large, they actually entail the "democratization" of knowledge and an effective redistribution of resources (grants, reputation capital, career opportunities, etc.) according to merit alone? To answer this question one should reflect on what has happened in other fields that have been adopting the Web 2.0 model for a long time.

The rapid diffusion of 2.0 technological platforms at the beginning of the century has contributed to the return of utopian visions that the Nasdaq crash of 2000/2001 seemed to have crushed. The generalization of the access to the means of production,[5] the leveling of corporate hierarchies,[6] and the growing economic, political and cultural weight of spontaneous collaboration among prosumer communities on the Internet[7] are three of the leitmotifs of the theoretical debate among authors such as Benkler, Shirky, Tapscott, Jenkins and others, aiming to prove the existence of a radical mutation of capitalism that seemingly enables: 1) the integration of extra-economical production motivations (gift economy), 2) the democratization of organizations through the absorption of meritocratic values. Anyone sufficiently familiar with the history of American culture will clearly see that this is nothing new, but rather the revitalization in style of the myth of a society capable of offering all individuals equal access opportunities to the necessary resources for competing and establishing themselves in the world, without the presence of undue concentrations of power by governments and private monopolies. However, all of this is no more than a myth. The overall effect of the processes of financialisation of the economy and of the digital revolution has not at all been towards the redistribution of resources, but rather to trigger the most radical process of monopolistic concentration in the history of capitalism, a phenomenon that has acquired particularly visible proportions in the very sectors of the culture industry that according to Web 2.0 gurus should have been at the heart of the democratization process. [8] For instance, citizen journalism, rather than a phenomenon in which consumers reappropriate themselves of information production and distribution processes, has turned out to be an extraordinary treasure trove of "semifinished" free materials for the culture industry. This applies both to the incredible bulk of texts, images and videos that millions of people upload to the Internet by the minute, in repositories that the media have free access to, and to the sophisticated posts published by thousands of bloggers with specialized skills. As far as the latter is concerned, the case of the "Huffington Post" is particularly significant. This daily, which now competes on equal grounds with the "New York Times" on the American news market, was originally launched as a federation of bloggers but rapidly turned into a formidable war machine that unites traditional and innovative journalism, and exploits free of charge the work of thousands of contributors, "paying them back" with the visibility they thus have access to.[9]

The "Huffington Post" model, however, is just a specific example of practices that are even more widespread, enabling Net Economy companies to include the so-called "gift economy" in the process of adding capital value. Think, for instance, of the evolution of free and open source software: from a community of independent software engineers that cooperated spontaneously and free of charge for motivations having no connection whatever with financial gain (personal attitude for inventiveness, search for prestige and acknowledgement in the community of peers, etc.) it has turned into a business model for the giants of the high tech industry such as Ibm and Google (the Android platform is known to make use of contributions by many independent software developers who are allowed to access its code in order to improve it). From this point of view, as explained by Tapscott[10] and other theoreticians of wikinomics and crowdsourcing, the fight between old business models based on the unflinching defense of intellectual property and the new models that exploit "open" technologies does not embody – contrary to the convictions of Kevin Kelly[11] – a clash between the supporters of the free market and the promoters of an

original kind of"digital socialism", but rather the competition between traditional capitalist companies and innovative ones that are more ready than the former to adapt to the new productive ecosystem in order to exploit the opportunities for the economic value creation implicit in the spontaneous forms of social cooperation generated on a wide scale by the Internet.

Lastly, we should debunk the myth whereby the rise of networks of organizations promotes the autonomy and the creativity both of employed and free-lance workers, as well as an egalitarian redistribution of resources. As far as the former is concerned, we are lead to acknowledge that, by enabling the standardization of high knowledge density tasks – formerly the realm of white collar workers, technicians and managers – IT tends to impoverish rather than enrich the content of these activities, leading to the introduction of original forms of digital taylorism in the organization of work execution. "The Economist" has addressed the latter in an interesting article[12] on the functioning of new software platforms, such as Mechanical Turk and Crowdforge, that make possible to assemble the work by thousands of people around the world, each of which gives up a fraction of their "spare time" for a few cents. The article points out that this is no new idea: in 1937 in an old industrial building some three hundred "human computers" were brought together, that is poor fellows having no particular skills who were used as an assembly line for compiling mathematical tables (this operation was made possible by breaking down complex calculations into a myriad of very simple operations). Nowadays this kind of workflow has made a great comeback thanks to the efficiency of software capable of assembling in real time the remote contributions by other poor fellows who are assigned repetitive tasks that computers are still not capable of performing automatically (creating encyclopedia entries, identifying digitally captured objects and images, translations, etc.). At a higher level, we can find the activities by swarms of online users willing to reply for free to questions by other users, or to make available quotas of their machine time so that this can be integrated into networks capable of performing complex scientific calculations (SETI, the most well known of these networks has anticipated the concept of cloud computing). The free or underpaid labor of wide masses of prosumers – labor that only marginally reflects the "creativity" standards celebrated by the gurus of the Net Economy, is a powerful advantage for diminishing the expectations of "old-style" creative jobs (journalists, designers, editors, teachers, etc.). The ideology surrounding the "democratization" of intellectual labor (in which the nonprofessional collaboration of ordinary people replaces the experts) is thus laid bare: a new system for the capitalist exploitation of collective intelligence that takes power and income away from the upper layers of the workforce without redistributing them to the lower ones. Even with respect to the redistribution of reputation capital, a cherished notion for techno-enthusiasts – things have evolved no differently. As extensively proved by countless theoretical analyses and empirical research,[13] the Internet is clearly shown to be an ecosystem that is entirely compatible with the Matthew effect: the blogosphere, social networks, news websites, commercial networks, online videos, and so on.. there is no field in the Web immune to a fast and increasing concentration of resources in the hands of a tiny minority of operators.

Let us now try to reply to the question raised at the beginning of this article rephrasing it as follows: if the underlying logic of Web 2.0 is such as has been described so far, is it reasonable to believe that "open science" networks can guarantee better access to knowledge, a "democracy of knowledge" and an improved meritocratic redistribution of funds, reputation capital, and career opportunities compared to those afforded by traditional scientific information? I think that the only point in which we can entertain some hope is the greater access to information and knowledge (if nothing else because they will be less expensive or even free of charge). As far as the others are concerned, I see no valid reason to assume that things will evolve differently from how they have in other sectors. The core around which all the considerations made thus far rotate is indeed the following: the idea that the Internet offers a level playing field to all individuals, offering them the same opportunities to exploit their talent and skills is no less utopian and naïve than that whereby the free market acts as an objective gauge of talent, if adequately protected from monopolistic distortions and state interference. The truth of the matter is, as previously revealed by the theoreticians of the Matthew effect, that each one of us goes into the Internet with a different set of resource endowments determined by factors that have nothing to do with merit: inherited wealth, cultural and social capital gained in accordance with one's history, family background, social class, gender, ethnic origin, etc. Social dynamics inevitably tend to magnify such differences if left to their "natural" spontaneity – including on the market and on the Internet. Hence, if the scientific community adopts the 2.0 philosophy perhaps it will manage to diminish the power of old-standing elites, but this will be only to establish new ones which, just like the previous ones, will be much less based on merit than on the resources with which individuals enter into competition.

Notes and references

[1] K.R. Merton (1973), *The Sociology of Science: Theoretical and Empirical Investigation*, University of Chicago Press, Chicago U.S.A.
[2] D. Rigney (2010), *The Matthew Effect. How Advantage Begets Further Advantage*, Columbia University Press, Columbia U.S.A.
[3] M. Castells (2001), *Internet Galaxy*, Oxford University Press, Oxford U.K.
[4] T. Lin (2012), *Cracking Open the Scientific Process*, *The New York Times*, 16 January 2012.
[5] Cfr Y. Benkler (2006), *The Wealth of Networks: How Social Production Transforms Markets and Freedom,* Yale University Press, Yale U.S.A.
[6] Cf. C. Shirky (2008), *Here Comes Everybody, The Power of Organizing without Organizations*.
[7] Cf. D. Tapscott and A.D. Williams (2008), *Wikinomics. How Mass Collaboration Changes Everything*, Portfolio; see also H. Jenkins (2006), *Convergence Culture*, New York University, New York U.S.A.
[8] Cfr M. Castells (2009), *Communication Power*, Oxford University Press, Oxford U.K.
[9] This is the argument used by Arianna Huffington in rejecting the claims by a group of bloggers who, after the newspaper was purchased by America On Line for three hundred million dollars, had requested retribution for their work.
[10] Cf D. Tapscott, *op. cit.*
[11] Cf. K. Kelly (2009), *The New Socialism: Global Collectivist Society Is Coming Online*, *Wired*, 22 May 2009.
[12] "*Return of the human computers*", *The Economist*, 3 December 2011.
[13] Cf. among others, A-L. Barabasi (2002), *Linked. The New Science of Networks*, Perseus Publishing; M. O'Neil (2009), *Cyberchiefs. Autonomy and Authority in Online Tribes,* Pluto Press.

Author

Carlo Formenti (Zurigo 1947) is a researcher and teacher of New media theory and techniques for the BS course in Science Communication of the University of Lecce, Italy. Among his most recent publications: "Incantati dalla Rete" (Cortina 2000); "Mercanti di futuro", (Einaudi 2002) "Cybersoviet" (Cortina 2008)., "Felici e sfruttati" (Egea 2011) Giornalista e blogger, collabora con il "Corriere della Sera".
E-mail: carlo.formenti@alice.it.

HOW TO CITE: C. Formenti, *Web 2.0: netizen empowerment vs. unpaid labor*, *Jcom* **11**(01) (2012) C03